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Technical Report 836

The Application of Computers to Learning in the Command and General Staff College: Analysis of Staff Officer Knowledge, Skills, and Abilities

Richard R. Sandoval

Cognitive Engineering Design and Research Team

May 1989

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~~Front-end analysis~~

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This report presents the findings and conclusions of Task B. Other reports are separately bound. The reports all have the same beginning title. The follow-on headings for the other reports are as follows:

A Front End Analysis Study

CGSC Analysis

Assessment of Computers in Education at Various Institutions

Technology Assessment

Assessment of Computer Literacy in CGSC

Analysis of Institutional and Financial Constraints

Army Command and Control Concepts Study

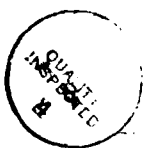
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Identification of Computer Opportunities

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Technical Report 836

**The Application of Computers to Learning in the
Command and General Staff College: Analysis of Staff
Officer Knowledge, Skills, and Abilities**

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FOREWORD

The Command and General Staff College (CGSC) is keenly concerned with training officers, in the most effective and efficient manner, to prepare them as coordinating staff members and commanders at brigade and higher echelons. The Deputy Commandant of CGSC requested that assistance be provided to conduct a front-end analysis to determine how emerging technology could be used at CGSC to close the gap between the classroom and "real" experience. The Cognitive Engineering Design and Research Team of the Los Alamos National Laboratory performed the analysis in cooperation with the Fort Leavenworth Field Unit of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). The results of the study marked a major milestone in defining requirements for the implementation of instructional technology in the Army's key training arena for tactical command and control operations. The portion of the overall study documented in this report involved the identification of knowledge, skills, and abilities of field grade officers serving in command and staff positions.

This effort was supported under ARI research task 144, "Advanced Technology for Command and Staff Operations." The work was performed under the long-standing memorandum of understanding between ARI and CGSC entitled, "Research and Evaluation Program for Present and Future Command and Control Requirements and Operations," 31 May 1983. Status briefings were provided to the CGSC throughout the project with final briefings presented to the Assistant Deputy Commandant and CGSC Directors on 14 August 1987 and to MG Gordon R. Sullivan, Deputy Commandant, on 13 November 1987. The effort has been accepted and endorsed enthusiastically by CGSC and implementation planning has occurred.



EDGAR M. JOHNSON
Technical Director

PREFACE

This report concerns one of the Army's most important institutions, the U.S. Army Command and General Staff College (CGSC), which is the font of tactical and operational knowledge for Army forces. This knowledge is a major force multiplier that holds potential enemies at bay, enhances deterrence, and thus moves us closer to a lasting peace.

The CGSC is a very complex organization that is undergoing major change brought about, in part, by computer technology. Further, the pace and scope of the change is faster and broader than in the past. The Army, educational technology, computer technology, and tactical doctrine are changing concurrently. CGSC must not only keep up but must also assist in the process because the College is an instrument of change for the Army. CGSC is the leader of the other Training and Doctrine Command (TRADOC) schools and centers, which directly affect almost every field grade officer in the Army. Finally, the College prescribes how the Army will fight and how its staffs will function.

The Los Alamos project team held this view of the CGSC. The actions to be initiated, based on this report, are far reaching because they will influence the quality of our Army in the years to come. In this spirit, the study was conducted.

The following Los Alamos personnel, listed alphabetically, contributed to this study:

Andrew E. Andrews, David L. Hudson, David R. Littlefield, Desiree Marr, Carol Ann Martz, Michelle M. Osborn, Richard R. Sandoval, Patricia A. Schultejann, Lois M. Spangenberg, Charles T. Thorn, and Mary S. Trainor.

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CEDAR Team Leader

THE APPLICATION OF COMPUTERS TO LEARNING IN THE COMMAND AND GENERAL STAFF
COLLEGE: ANALYSIS OF STAFF OFFICER KNOWLEDGE, SKILLS, AND ABILITIES

EXECUTIVE SUMMARY

Requirement:

The problem statement for this study was to determine how best to introduce computers into the Command and General Staff College (CGSC) curriculum. This report documents Task B of the study, which identifies the knowledge, skills, and abilities (KSA) required of command and staff positions, assigns cognitive levels to the KSA, and assesses the suitability of computers for learning KSA.

Procedure:

Each principal staff function was examined to identify common and task-specific KSA. A cognitive level from Bloom's taxonomy was assigned to each common KSA. Opportunities to use computers were identified by type of application for each set of staff tasks. Findings are presented for a variety of hypotheses about the KSA and supportability by automation.

Findings:

The cognitive levels of the KSA associated with staff tasks appear to vary among the principal staff functions and vary in terms of the degree to which they are supportable by automation. In principle, all the KSAs could be taught through one or more categories of the applications of computers to learning (ACL). Generally, the higher the cognitive level of the KSA, the more complex the ACL for those KSAs is likely to be.

Utilization of Findings:

This analysis will be used to guide implementation of a program to expand the use of computers in CGSC instruction. The findings identify the initial steps to be taken and describe the actions that should be taken for a longer term payoff in exploiting technological advances in ACL. This phase of the analysis identifies a list of qualifications required of coordinating staff officers in lieu of an officially approved listing.

THE APPLICATIONS OF COMPUTERS TO LEARNING IN THE COMMAND AND GENERAL STAFF
COLLEGE: ANALYSIS OF STAFF OFFICER KNOWLEDGE, SKILLS, AND ABILITIES

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THE APPLICATION OF COMPUTERS TO LEARNING
IN THE COMMAND AND GENERAL STAFF COLLEGE:
ANALYSIS OF STAFF OFFICER KNOWLEDGE, SKILLS, AND ABILITIES

INTRODUCTION

A study to identify opportunities and make recommendations to improve instruction through the use of computers at the U.S. Army Command and General Staff College (CGSC) should include an assessment of the current performance of CGSC schools in preparing Army officers for subsequent assignments. One measure of that performance is the degree to which the curricula of the schools are designed specifically to teach the knowledge, skills, and abilities (KSA) needed to assume the duties of staff officers of tactical and operational commands. It is necessary first to identify the KSA needed for those staff positions. Three categories of those KSA can be distinguished; they are as follows:

- General knowledge of military matters and their roles in national life.
- Common KSA required for performing principal command and staff functions.
- KSA needed for specific staff tasks arising within each principal staff function.

For the purposes of this project, the content of each of these categories was inferred from the description of the duties and responsibilities of commanders and staff officers appearing in U.S. Army Field Manual 101-5, Staff Organization and Operations (FM 101-5)(Hq. Dept. of the Army, 1984).

TASK DESCRIPTION

Goals

The first goal of this task was to identify the KSA required for the effective performance of command and staff tasks of Army field grade officers, which is the level of instruction of the Command and General Staff School of CGSC, and to assign appropriate cognitive levels to each set of KSA according to Bloom's Taxonomy (1956).

The second goal of this task was to assess the suitability of using computers to assist in performing the tasks identified in reaching the first goal and in learning the KSA needed for performing them.

Relationship of Task B to the Total Project

The completion of this task permitted the comparison of the KSA needed for command and staff tasks with the curricula of the schools of CGSC (Task F). The comparison contributed to an appreciation of the current roles of CGSC schools in preparing officers for undertaking the tasks, a necessary preliminary to examining the wider application of computers for improving CGSC instruction both in and out of the classroom.

Assumptions

FM 101-5 provides a broad definition of the role of the commander and a definitive description of the duties and responsibilities of the members of his staff from which the three categories of KSA listed in the introduction of this report can be inferred by persons experienced in staff operations.

Appropriately resolving each principal staff function, as defined in FM 101-5, into component tasks for each member of a tactical command coordinating staff exposes the KSA for performing the functions as well as the tasks.

The KSA identified for each principal staff function and for each included staff task can be characterized by a single cognitive level assigned by assessing the kind of intellectual effort needed to acquire the KSA.

The description of the tasks obtained by the procedure of the second assumption is adequate for assessing the feasibility of using automation to assist in performing some of the tasks and for judging whether applications of computers to learning (ACL) would be useful in specific cases in teaching the needed KSA at CGSC.

METHODOLOGY

Identification of Common KSA

Using FM 101-5 as the basic source of data, each principal staff function was examined for each tactical command coordinating staff officer to identify the common KSA required by all staff officers for performing that function. A cognitive level was assigned to each set of common KSA through analysis of the kind of intellectual effort needed for acquiring them.

Identification of Task-Specific KSA

Each principal staff function of each tactical command coordinating staff officer was then reduced to its component tasks, permitting the determination of the KSA for the effective performance of each task and the assignment of a cognitive level to the KSA.

Other Staff Tasks

The staff procedures listed in FM 101-5 as the tools for performing staff functions were also reduced to tasks for later comparison with CGSC curricula. In addition, the duties and responsibilities for support command coordinating staff officers and those of special and personal staff officers, as defined in FM 101-5, were listed for later comparison with CGSC curricula and examined for their relationships with operations of the coordinating staffs of tactical commands.

Results of Analyses

The results of these analyses, together with a list of subjects of general military knowledge considered part of the professional qualifications of CGSC graduates, constitute the content of the three categories of KSA defined in the introduction of this report.

Identification of Computer Opportunities

Conceptual types of support through automation were compared with the staff tasks and implied subtasks to identify opportunities to use computers to assist in the performance of the tasks. Necessarily more subjectively, conceptual categories of ACL were compared with the tasks to identify opportunities to use computers in teaching KSA needed for the performance of each task.

Hypotheses

Subsequent examination and analysis of the data were aimed at testing a number of hypotheses regarding command and staff tasks and their cognitive levels. These hypotheses were formulated for the purpose of providing direction for the organization of the data for presentation and for the analyses leading to conclusions. They were derived by considering methods of providing useful results for subsequent comparisons with CGSC curricula, with the eventual aim of recommending ACL at CGSC. The hypotheses tested were the following:

- Hypotheses B-1. Tasks identified by analyzing the principal staff functions are distributed uniformly among the functions.
- Hypotheses B-2. Tasks identified by analyzing duties and responsibilities of tactical command coordinating staff officers are distributed uniformly among the staff members.
- Hypotheses B-3. If the tasks are not uniformly distributed among coordinating staff members, tasks associated with intelligence and operations matters outnumber those related to administrative and logistical functions and are associated generally with higher cognitive levels.
- Hypotheses B-4. The cognitive levels of the KSA required for performing particular staff tasks vary widely with the nature of the tasks across the entire range of cognitive levels.
- Hypotheses B-5. Tasks associated with low cognitive levels significantly outnumber those with a high associated cognitive level.
- Hypotheses B-6. The distribution of cognitive levels of tasks does not vary significantly among the principal staff functions.
- Hypotheses B-7. The distribution of cognitive levels of tasks does not vary significantly among coordinating staff members.
- Hypotheses B-8. Coordinating staff interactions with the special staff affect each coordinating staff officer equally; interactions between tactical command and support command staffs principally concern logistic and administrative matters.
- Hypotheses B-9. Tasks supportable by automation are distributed uniformly among the principal staff functions and among coordinating staff sections.
- Hypotheses B-10. If opportunities to support staff tasks with automation are not distributed uniformly among principal staff functions and staff sections, automating administrative and logistic tasks appears at present to be more feasible than attempting to automate intelligence and operations tasks.

- Hypotheses B-11. Opportunities to apply computers to learning the KSA needed for performing staff tasks occur with equal frequency in all the principal staff functions and among all coordinating staff officers.
- Hypotheses B-12. Whenever the use of computers is appropriate, teaching the KSA needed for performing low cognitive level tasks involves developing less complex software than is needed for teaching the KSA associated with high cognitive level tasks.

RESULTS

Location of Data

Appendix A contains a listing of 182 staff tasks derived from the duties and responsibilities of tactical command coordinating staff officers described in FM 101-5. The appendix also lists the KSA of the three categories described in the introduction of this report. They were inferred from the nature of the tasks through analysis performed along with the experience of having served in staff positions treated in the manual. Material from FM 101-5 related to duties and functions of other staff officers and a list of tasks implied by the description of staff procedures in the manual are also included.

Appendix B contains assessments of the suitability of supporting each staff task with automation and of applying computers to learning needed KSA.

Some of the data assembled in Appendices A and B were tabulated for analysis in various forms in the next section of this report. Categories of analysis included the four principal staff functions as described in FM 101-5 (providing information, making estimates, making recommendations, and preparing plans and orders) and the cognitive levels of Bloom's (1956) Taxonomy (knowledge comprehension, application, analysis, synthesis, and evaluation).

Tactical command coordinating staff officers are designated in these tables as in FM 101-5 and Appendix A. Their titles of Assistant Chiefs of Staff are omitted; thus, they appear as the G1, G2, G3, G4, and G5.

Tabulated Data from Appendices A and B

Staff tasks can be categorized for tabulation in various ways for more detailed analysis of the qualitative features of staff operations and of their relationship to the use of computers, as shown below.

The tasks are distributed by principal staff functions and tactical command coordinating staff officer as shown in Table 1.

Table 1

Task Distribution by Function and Staff Position

Function	Staff					Totals
	G1	G2	G3	G4	G5	
Provide information	4	18	19	15	15	71
Make estimates	5	3	3	2	1	14
Make recommendations	8	8	16	8	4	44
Prepare plans and orders	6	14	14	10	9	53
Totals	23	43	52	35	29	182

The percentage of the tasks of each staff officer associated with each principal staff function is listed in Table 2.

Table 2

Percentage of Staff Officer Tasks by Function

Function	Staff				
	G1	G2	G3	G4	G5
Provide information	17.4	41.9	36.5	42.9	51.7
Make estimates	21.7	7.0	5.8	5.7	3.5
Make recommendations	34.8	18.6	30.8	22.9	13.8
Prepare plans and orders	26.1	32.5	26.9	28.5	31.0
Totals	100.0	100.0	100.0	100.0	100.0

The 90 tasks requiring significant interaction with support command staff are distributed by principal staff function and by tactical command coordinating staff officer as shown in the following Table 3.

Table 3

Distribution of Tasks Requiring Interaction with Support Command Staff

Function	Staff					Totals
	G1	G2	G3	G4	G5	
Provide information	2	3	9	13	6	33
Make estimates	3	2	1	2	1	9
Make recommendations	3	1	11	8	1	24
Prepare plans and orders	2	2	7	8	5	24
Totals	10	8	28	31	13	90

The 137 tasks requiring significant interaction with the special staff are distributed by principal staff function and by staff officer as shown in Table 4.

Table 4

Distribution of Tasks Requiring Interaction with Special Staff

Function	Staff					Totals
	G1	G2	G3	G4	G5	
Provide information	4	9	17	12	10	52
Make estimates	5	3	3	2	1	14
Make recommendations	1	5	12	9	1	28
Prepare plans and orders	6	8	14	10	5	43
Totals	16	25	46	33	17	137

The tasks with cognitive levels are distributed among the principal staff functions as shown in Table 5.

Table 5

Distribution of Tasks with Cognitive Level by Principal Staff Function

Cognitive Level	Function				Totals
	Provide Information	Make Estimates	Make Recommendations	Prepare Plans and Orders	
Knowledge	1	0	0	0	1
Comprehension	16	1	0	0	17
Application	24	1	16	23	64
Analysis	26	9	22	13	70
Synthesis	4	1	4	12	21
Evaluation	0	2	2	5	9
Totals	71	14	44	53	182

The tasks with cognitive levels are distributed among coordinating staff officers as shown in Table 6.

Table 6

Distribution of Tasks with Cognitive Level by Coordinating Staff Officer

Cognitive Level	Staff					Totals
	G1	G2	G3	G4	G5	
Knowledge	0	1	0	0	0	1
Comprehension	0	1	8	6	2	17
Application	7	22	9	17	9	64
Analysis	12	11	20	11	16	70
Synthesis	3	5	11	0	2	21
Evaluation	1	3	4	1	0	9
Totals	23	43	52	35	29	182

Administrative and logistic tasks and intelligence and operations tasks are listed with their cognitive levels by principal staff function in Table 7.

Table 7

Comparison of Numbers and Cognitive Levels of G1 and G4 Tasks with G2 and G3 Tasks

Tasks		Function			
Cognitive Level	G1	G2	G3	G4	Totals
G1 & G4					
Knowledge	0	0	0	0	0
Comprehension	6	0	0	0	6
Application	7	1	9	7	24
Analysis	6	6	4	7	23
Synthesis	0	0	2	1	3
Evaluation	0	0	1	1	2
Totals	19	7	16	16	58
G2 & G3					
Knowledge	1	0	0	0	1
Comprehension	8	1	0	0	9
Application	11	0	7	13	31
Analysis	13	2	14	2	31
Synthesis	4	1	2	9	16
Evaluation	0	2	1	4	7
Totals	37	6	24	28	95

The following tables present data taken from Appendix B and employ the designators used there for conceptual types of automation and categories of ACL. It should be noted that the appendix indicates that many staff tasks were judged supportable by more than one type of automation; similarly, the KSA associated with many tasks were considered suitable for teaching by more than one category of ACL.

The number of tasks considered suitable for some type of automation is shown by cognitive level in Tables 8 and 9.

Table 8

Number of Principal Staff Function Tasks Considered Supportable by Automation by Cognitive Level

Cognitive Level	Function				Totals
	G1	G2	G3	G4	
Knowledge	1	0	0	0	1
Comprehension	14	1	0	0	15
Application	22	1	6	20	49
Analysis	26	9	14	10	59
Synthesis	4	1	2	11	18
Evaluation	0	2	0	4	6
Totals	67	14	22	45	148

Table 9

Number of Staff Officer Tasks Considered Supportable by Automation by Cognitive Level

Cognitive Level	Staff					Totals
	G1	G2	G3	G4	G5	
Knowledge	0	1	0	0	0	1
Comprehension	0	0	7	6	2	15
Application	5	18	6	13	7	49
Analysis	10	8	17	11	13	59
Synthesis	2	5	9	0	2	18
Evaluation	0	2	3	1	0	6
Totals	17	34	42	31	24	148

The number of tasks of each coordinating staff officer considered supportable by automation together with the total number of tasks in performing each principal staff function is shown by function in Table 10.

Table 10

Number of Staff Tasks Supportable by Automation/Number of Tasks Supportable by Principal Staff Function and Staff Officer

Function	Staff				
	G1	G2	G3	G4	G5
Provide information	4/4	17/18	18/19	15/15	13/15
Make estimates	5/5	3/3	3/3	2/2	1/1
Make recommendations	2/8	4/8	10/16	4/8	2/4
Prepare plans and orders	6/6	10/14	11/14	10/10	8/9
Totals	17/23	34/43	42/52	31/35	24/29

The categories for type of applicable automation used in the following tables are explained as follows.

None. The task does not lend itself to automation.

Electronic mail system (E-mail). The task involves moving information among individuals and headquarters.

Database. The task involves recording information that could be included in a computer-stored database for easy retrieval and sorting for analysis.

Word processing. The task involves preparing various documents, often in a standard format that could be stored in a computer, that could be quickly printed by a desktop publishing system.

Computation. The task includes analytical processing of data, which could involve using computers for quantitative calculations or computational aids to decision making.

Table 11 displays the number of tasks of each principal staff function considered suitable for the type of automation shown.

Table 11

Number* of Principal Staff Function Tasks Suitable for Each Type of Automation

Type	Function				Totals
	G1	G2	G3	G4	
None	4	0	21	8	33
E-mail	13	0	0	0	13
Data base	57	12	21	44	134
Word processing	24	13	6	24	67
Computation	35	12	1	5	53
Totals	133	37	49	81	300

*Recall that many tasks can be supported by more than one type of automation and have KSA that can be taught by more than one category of computer applications.

The number of tasks of each tactical command coordinating staff officer considered suitable for some type of automation is shown by type of automation in Table 12.

Table 12

Number of Tasks of Each Staff Officer Suitable for Each Type of Automation

Type	Staff					Totals
	G1	G2	G3	G4	G5	
None	6	9	9	4	5	33
E-mail	4	3	4	1	1	13
Data base	17	31	36	29	21	134
Word processing	9	16	25	11	6	67
Computation	5	9	14	12	13	53
Totals	41	68	88	57	46	300

The category of administration, which refers to applying computers to functions associated with teaching primarily to raise the productivity of the staff and faculty, applies to teaching all the KSA of every category defined in the introduction of this report. Additionally, teaching the KSA associated with every task listed in Appendix B was considered to be suitable for at least one of the ACL falling in the other categories listed below.

Categories of Applications of Computers to Learning (ACL) are the following:

Administration. This application is for performing administrative functions, which might include record keeping, word processing, database management, course registration, and preparation and presentation of instructional materials. (Not used in the tables because it applies to all staff tasks.)

Testing. This computer-managed instruction function involves measurement via computerized tests of student retention of previously learned KSA.

Computer-Assisted Instruction (CAI). This application uses computer courseware for mastery learning of newly introduced KSA needed for basic task elements, for example, performing the administrative functions required by the task.

Simulation for Individual Training (SIT). This training via computer requires application and analysis of previously learned material. These instructional simulations model some aspect of reality with sufficient fidelity to present the student with situations requiring him to apply previously acquired KSA.

Intelligent Tutoring System (ITS). An ITS, which uses artificial intelligence, serves as a tool for learning new KSA and applying already acquired KSA through a continuous interaction with a program that diagnoses student misconceptions and clues correct action based on an expert knowledge base and a student model.

Gaming. Concepts are applied and practiced through a computer game, generally of less fidelity than a simulation, that models a relevant subject area and requires exercising the concepts against a real or virtual opponent.

Simulation for Collective Training (SCT). KSA required of a team are practiced by a group in a simulation designed to present evolving situations that demand the application of the team KSA.

The number of tasks of each principal staff function having KSA that could be taught by ACL is shown by category of application in Table 13.

Table 13

Number of Principal Staff Function Tasks Having KSA That Can Be Taught by Each Category of Computer Applications

ACL Category	Function				Totals
	G1	G2	G3	G4	
Testing	25	0	2	3	30
CAI	45	11	20	43	119
SIT	45	12	36	43	136
ITS	17	4	4	7	32
Gaming	7	7	14	11	39
SCT	0	3	1	2	6
Totals	139	37	77	109	362

The same information by tactical command coordinating staff officer is shown in Table 14.

Table 14

Number of Staff Officer Tasks Having KSA That Can Be Taught by Each Category of Computer Applications

ACL Category	Staff					Totals
	G1	G2	G3	G4	G5	
Testing	3	10	9	3	5	30
CAI	17	26	38	29	9	119
SIT	15	27	38	28	28	136
ITS	2	10	10	1	9	32
Gaming	1	10	20	6	2	39
SCT	0	1	5	0	0	6
Totals	38	84	120	67	53	362

Table 15 displays the number of tasks by cognitive level considered supportable by each type of automation.

Table 15

Number of Tasks by Cognitive Level Considered Supportable by Each Type of Automation

Cognitive Level	Automation Type					Totals
	None	E-Mail	Database	Word Processing	Computation	
Knowledge	0	0	1	0	0	1
Comprehension	2	3	13	6	7	31
Application	15	3	44	16	16	94
Analysis	11	5	52	25	23	116
Synthesis	3	2	18	13	4	40
Evaluation	3	0	6	5	4	18
Totals	34	13	134	65	54	300

The number of tasks needing KSA that could be taught by ACL are shown by cognitive level for each category of applications in Table 16.

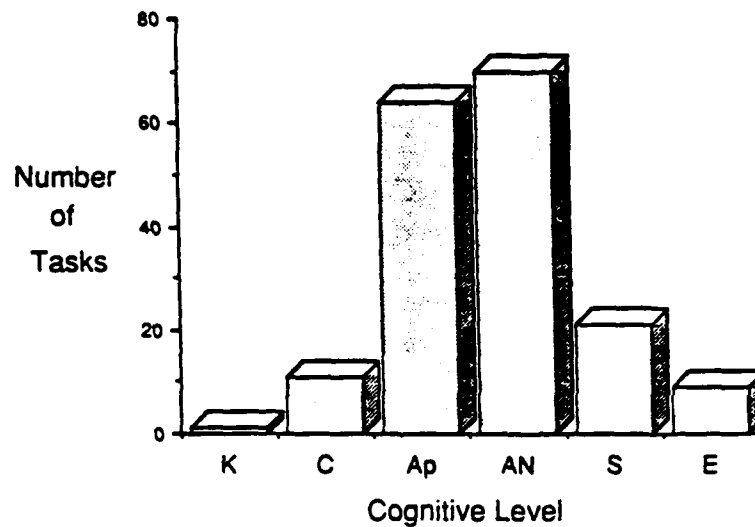
Table 16

Number of Tasks by Cognitive Level Needing KSA That Could Be Taught by ACL

Cognitive Level	ACL Category						Totals
	Testing	CAI	SIT	ITS	Grouping	SCT	
Knowledge	1	1	0	0	0	0	2
Comprehension	4	15	7	0	2	0	28
Application	10	43	42	7	8	0	110
Analysis	12	41	62	10	14	0	139
Synthesis	3	14	17	10	10	3	57
Evaluation	0	5	8	5	5	3	26
Totals	30	119	136	32	39	6	362

Graphical Presentation of Data

The four graphs below present data from Appendix A. Figure 1 shows the distribution of staff tasks by cognitive level.



K	= Knowledge	AN	= Analysis
C	= Comprehension	S	= Synthesis
AP	= Application	E	= Evaluation

Figure 1. The total number of staff tasks of each cognitive level.

Figures 2 through 4 display the average cognitive level of the KSA associated with staff tasks of various categories. To obtain an average cognitive level, each level was assigned a weight on the assumption that the levels can be quantitatively related with regard to intellectual effort by a geometric progression, that is Knowledge = 1, Comprehension = 2, Application = 4, Analysis = 8, Synthesis = 16, and Evaluation = 32.

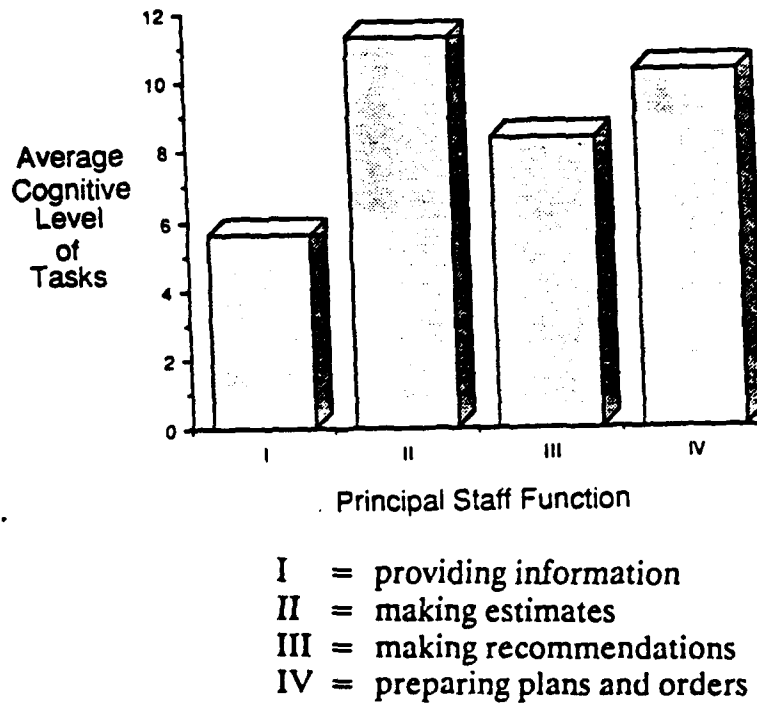


Figure 2. The average cognitive level of the component tasks of each principal staff function.

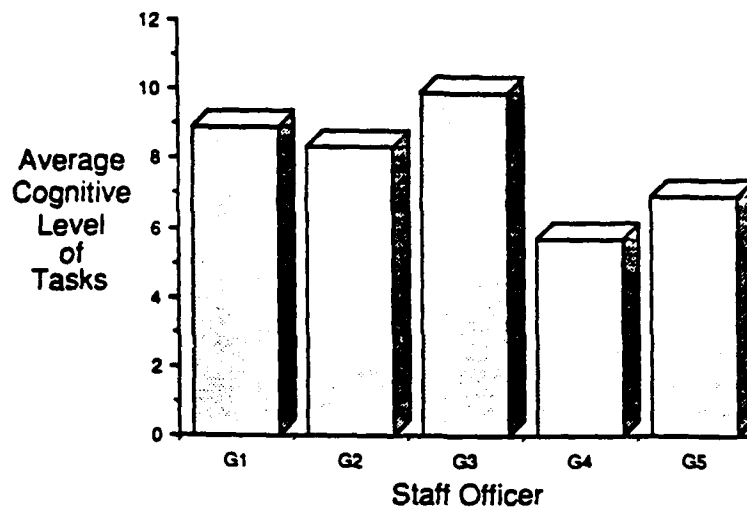


Figure 3. The average cognitive level of tasks of each tactical command coordinating staff officer.

Table 7 compares the number and cognitive levels of the combined G1 and G4 tasks with those of the combined G2 and G3 tasks. Figure 4 compares the average cognitive levels of the combined tasks.

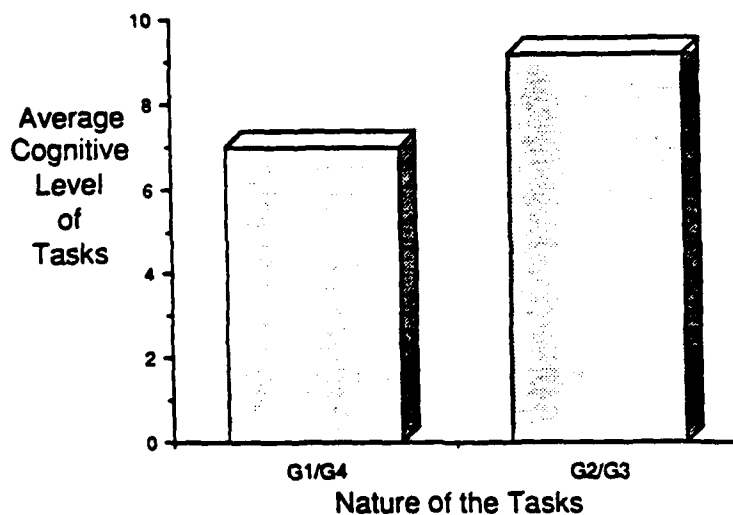


Figure 4. The average cognitive level of administrative and logistic (G1 & G4) tasks compared with that of intelligence and operations (G2 & G3) tasks.

The graphs below (Figures 5 and 6) display data from Appendix B. The first two figures display average cognitive levels of principal staff function and coordinating staff officer tasks considered supportable by automation. Recall that the KSA associated with all the staff tasks are considered to be teachable using ACL.

Figure 5 below shows the average cognitive level of principal staff function tasks considered suitable for some type of automation.

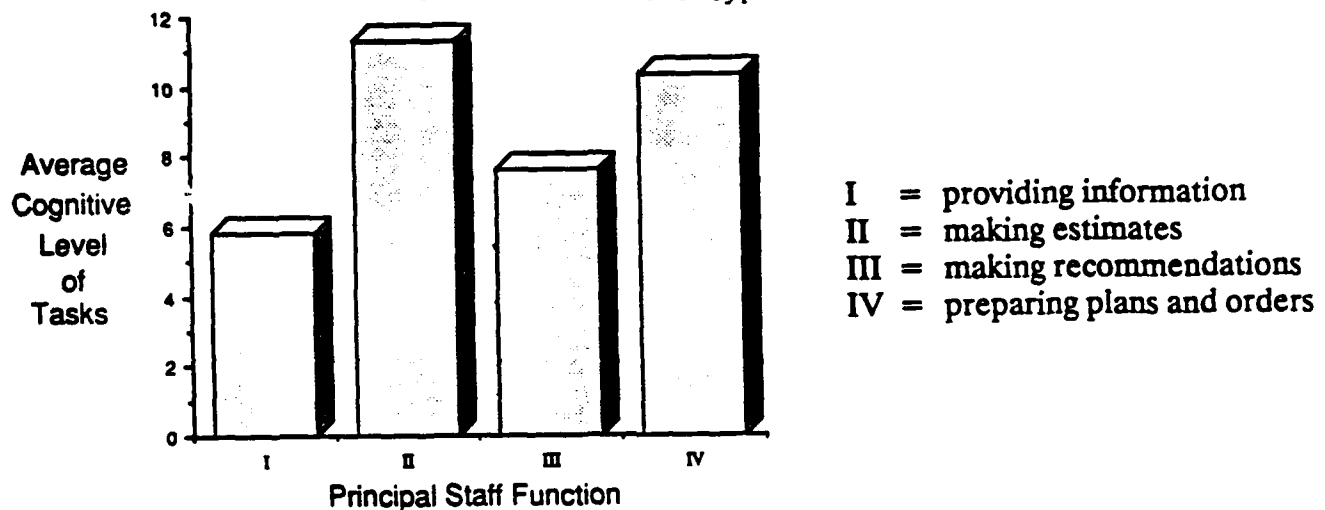


Figure 5. The average cognitive levels of the staff function tasks judged supportable by automation.

The same information with regard to tactical command coordinating staff officer tasks is shown in Figure 6.

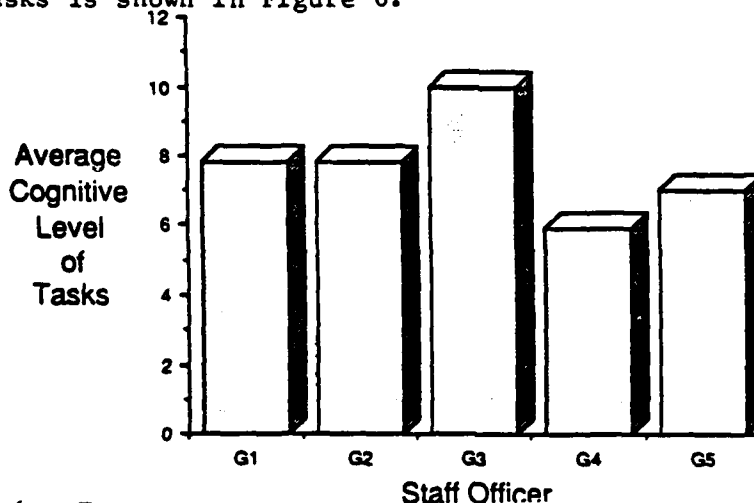


Figure 6. The average cognitive levels of the staff officer tasks judged supportable by automation.

The remaining figures (Figures 7 and 8) use the designators used in Appendix B and in the previous section of this report for the types of automation for categories of ACL. The following figure shows the average cognitive level of the tasks considered suitable for each type of automation.

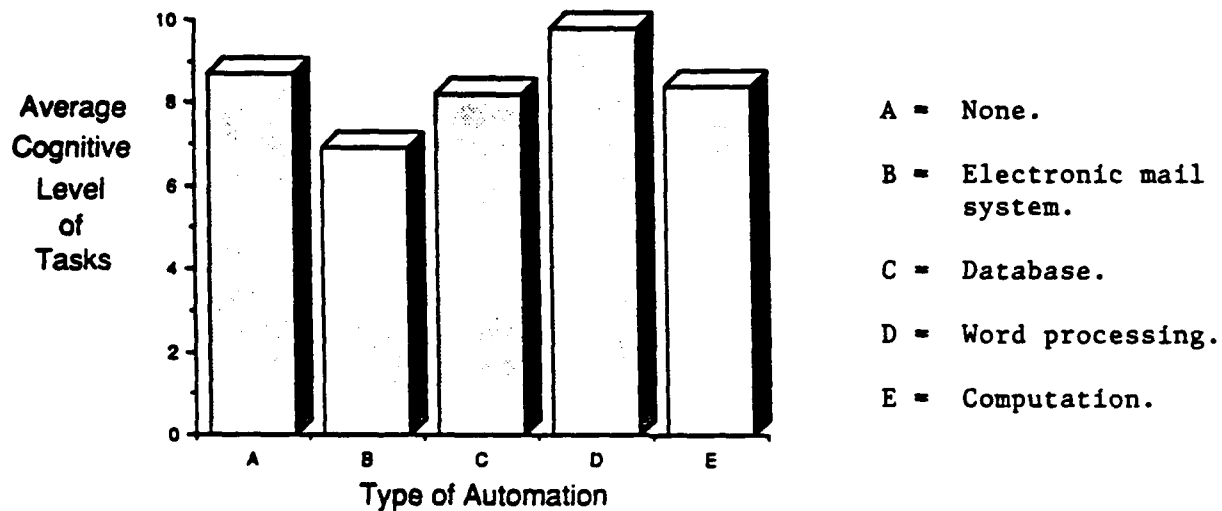


Figure 7. The average cognitive level of tasks suitable for each type of automation.

Figure 8 below shows the average cognitive level of tasks having KSA that can be taught by ACL for each category of that kind of application.

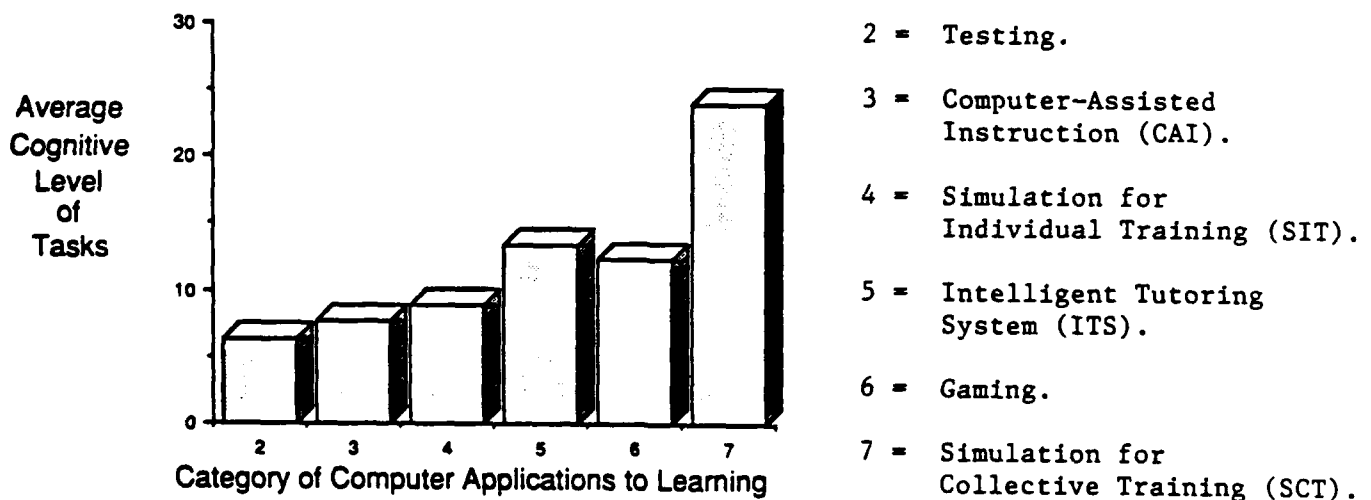


Figure 8. The average cognitive level of tasks having KSA that could be learned with the indicated category of computer applications.

DISCUSSION

Testing of the Hypotheses

The first part of this section compares the hypotheses of this report with the data presented in Appendices A and B and the tables and figures in the preceding section.

The number of staff tasks varies widely both with principal staff function (from 14 to 71) and with tactical command coordinating staff officer (from 23 to 52), as is shown by Table 1, clearly contrary to hypotheses B-1 and B-2.

Hypothesizing that the cognitive levels of the KSA associated with staff tasks do not vary among the principal staff functions and among coordinating staff officers (hypotheses B-6 and B-7) is not supported as indicated by Tables 5 and 6.

If knowledge, comprehension, and application are taken to be the low cognitive levels, the number of tasks with associated KSA of low cognitive levels is not markedly different from that of tasks of high cognitive levels (82 and 100, respectively) as shown in Tables 5 and 6 and Figure 1, contrary to hypothesis B-5.

The numbers of tasks requiring coordinating staff interactions with members of the special staff are not distributed evenly among coordinating staff members (they vary from 16 to 46). Interactions with the support command staff do not principally concern the G1 and the G4, whose combined tasks involving those interactions total 41, while those of the other coordinating staff officers total 49. Tables 3 and 4 appear to disprove hypothesis B-8.

Tables 8 and 9 do not support hypothesis B-9. Principal staff function tasks supportable by automation vary in number by function from 14 to 67, and coordinating staff officer tasks similarly supportable vary among the staff from 17 to 42.

Hypothesis B-11 is also not supported. The KSA of all staff tasks were considered to be teachable through the ACL, and the tasks are distributed as in Table 1.

As shown by Table 7 and Figure 3, hypothesis B-3, which posits a notable difference in the number and cognitive levels of administrative and logistic tasks as compared with intelligence and operations tasks, appears to be verified.

Figure 1 verifies that the cognitive levels of the KSA associated with staff tasks vary widely across the entire range of cognitive levels (hypothesis B-4).

If the average cognitive level of the tasks is used as the measure of feasibility of supporting the tasks of a particular staff section with automation, it appears from Figure 6 that hypothesis B-10 basically is correct in holding that administrative and logistic tasks are more aptly considered at present for that kind of support than intelligence and operations tasks. The question may hinge, however, on the details of the subtasks chosen for automation.

Table 16 and Figure 8 show that the higher the cognitive level of the KSA associated with a staff task, the more complex the ACL for those KSA is likely to be, as posited by hypothesis B-12.

Assessment of Data

An attempt to infer the specific tasks implicit in the descriptions of the duties and responsibilities of staff officers in FM 101-5 is likely to involve subjectivity that would cause the results to vary somewhat from person to person making that attempt. The same is probably also true of attempts to classify the tasks by principal staff function, to identify the KSA needed for performing each task, and to assign cognitive levels to the KSA. There may also be a subjective element in some or all of the particular descriptions of the duties and responsibilities of various staff officers that appear in FM 101-5. Therefore, it would appear to be worthwhile to try to assess the validity of at least the qualitative features of the data presented in Appendices A and B and in the tables and figures of this report. Such an assessment follows.

The number of specific tasks listed in Appendix A is adequate for discriminating among the principal staff functions by the number and kinds of tasks involved in performing each. Perhaps other attempts to identify those specific tasks would also serve that purpose. Those functions provide a convenient taxonomy for classifying all the tasks, which are also naturally classified by the staff officer responsible for doing them, thus providing another way of comparing the KSA associated with the tasks with the curricula of the schools of CGSC.

One of the unexpected results of grouping the tasks by function was that those tasks that fell into the fourth principal function, preparing plans and orders, were obviously of two substantially different kinds: those that were clearly related to preparing plans and orders and those that were clearly involved with staff supervision of various activities of the command, including combat operations.

Although the description of the fourth function in FM 101-5 includes the supervisory as well as the planning aspects currently subsumed in the function, this sharp distinction between the kinds of tasks suggests that a fifth principal staff function (recognizing staff supervision as a separate staff operation) might be appropriately included in a revision of FM 101-5. It would appear that the KSA needed for that function would differ substantially from those needed for the other functions, which could have significance for the CGSC curricula.

A degree of subjectivity was also involved in identifying the conceptual types of automation and conceptual categories of ACL used in Appendix B. These conceptual types and categories were developed by the project team for use in satisfying the requirements of the project. They are consistent with definitions and terms in general use among members of the communities concerned with the use of computers for administrative or educational purposes.

Examples of automation of the types described would be easy to find. The same cannot be said of ACL, most of which either are still under development or remain notional. Clearly, judging staff tasks for their supportability by automation and for having their associated KSA taught by ACL is unavoidably susceptible to the preconceptions and bias of the person doing the judging, introducing a degree of arbitrariness into the process.

It is not easy to say whether the distribution of staff tasks among the principal staff functions and among the members of coordinating staff groups, as it appears in Table 1, accurately reflects how FM 101-5 is implemented in actual staffs of the Army in the field. It seems likely that the apparent distribution of Table 1 is affected to a degree that is indeterminable by differences in the way each coordinating staff officer's duties and responsibilities were described for inclusion in FM 101-5 by the presumably different individuals who participated in writing the current version of the manual. On the other hand, it would probably seem reasonable to persons with experience in staff operations to assert that the qualitative features of the distribution, as well as of the relative cognitive levels of the tasks by function and by staff officer as shown in Tables 5 and 6, substantially are correct.

The results of comparing administrative and logistic functions with those of intelligence and operations by using the data in Appendix A as in Table 7 and Figure 4 may also simply reflect subjectivities in the way FM 101-5 is written and in the particular identification of staff tasks and their associated KSA with assigned cognitive levels displayed in the appendix. The greater emphasis placed on operations and intelligence relative to administration and logistics does not distort the realities of combat.

More problematical is how civil affairs tasks should be viewed and, in particular, how the data in Appendix A relating those G5 tasks to the tasks of other members of the coordinating staff (as in Tables 1-4, 6, 9, 10, 12, and 14 and Figures 3 and 6) should be interpreted. Obviously, trying to relate numbers of tasks and relative cognitive levels to functions and staff officers should not be seen as making invidious comparisons.

The danger alluded to in that last sentence might inhere in the notion of computing an average of cognitive levels that can by no means be objectively assigned. The notion was adopted here because an average cognitive level provides a measure of the level of intellectual effort involved in acquiring needed KSA for the function or tasks for which the average was computed, which would have relevance when the totality of the KSA was compared with CGSC curricula. Evidently, there would be a significant correlation between level of intellectual effort required of the student and choice of instructional method of imparting the necessary KSA.

Interpretation of the Data

The remainder of this section is devoted to reporting the results of interpreting the data presented above and in Appendices A and B for their significance in a comparison of the KSA needed for effective performance of staff duty with CGSC curricula and generally for completing the project, subject to the considerations presented above in the section entitled Assessment of the Data. The principal effect of those considerations is to induce caution in the process, especially in the use of quantitative aspects of the data.

It is notable that identifying the KSA required of officers serving on staffs of tactical and operational commands cannot rely on official sources for an explicit listing. Where a listing of that kind is to be prepared, it does not seem likely that any of the qualitative features of the data in this appendix would change sufficiently as a result to affect a comparison with CGSC curricula materially.

Clearly, performing the principal staff functions defined in FM 101-5 involves completing specific tasks that vary widely in the cognitive levels of the KSA needed to perform them. The number of tasks to be completed in performing each function also varies from function to function, as does the average cognitive level of the KSA needed for performing the component tasks of each function.

The variation in cognitive levels of KSA associated with staff tasks should be reflected in the variety of instructional methods used to teach them through formal schooling either in institutions established for the purpose or in units of the Army in the field. Grouping the tasks by principal staff function as well as by staff officer may assist in making the choice of instructional method in specific cases, perhaps especially in those involving KSA of low cognitive level. Specifically, distinguishing routine tasks performed repetitively from those requiring the exercise of informed judgment in essentially unique circumstances may avoid using excessively sophisticated instructional methods to teach the routine tasks.

The variation in the cognitive levels of task-associated KSA is also reflected in the types of automation that suggest themselves as aids in the performance of many of the tasks.

Using computers to teach the needed KSA for effectively participating in staff operations would be appropriate in principle for teaching the KSA needed for every staff task involved in those operations. Figure 8 indicates that KSA of the higher cognitive levels will require more advanced ACL than those of low cognitive levels. Because appropriate courseware for almost all the uses of computers to teach the KSA needed by staff officers does not exist, a program for developing that courseware and its supporting software would be required to introduce those applications.

The large number of staff tasks involving interactions among a tactical command coordinating staff, its support command staff, and its special staff suggests that the form of those interactions might be worth explicit attention in teaching staff operations.

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CONCLUSIONS

Value of Officially Listing KSA

To identify opportunities for improvements, it would be useful for internally or externally evaluating the Army's educational system to have an officially approved, explicit listing of the qualifications (including KSA) required of officers serving on coordinating staffs of tactical and operational commands, together with a record of assignment of responsibility for imparting specific elements of those qualifications to every agency with a role in that system.

Alternative to an Official Listing

Lacking such a listing, the descriptions of coordinating staff officers' duties and responsibilities in FM 101-5 and experience in staff operations enable inferring components staff tasks, which in turn enables the identification of the KSA needed for performing the tasks and the assignment of cognitive levels to those KSA.

Fifth Principal Staff Function

If the value of classifying staff tasks by the principal staff functions defined in FM 101-5 as well as by coordinating staff member is granted, it would be logically consistent to recognize a fifth principal staff function comprising those tasks related to staff supervision of command activities, including controlling combat operations.

Opportunities for Automation

There are many opportunities to support the performance of staff tasks with automation of various types. Those opportunities exist for every principal staff function, for each coordinating staff officer, and for subtasks of tasks of all cognitive levels.

Applications of Computers to Learning

Similarly, all of the KSA needed for performing staff tasks can in principle be appropriately taught through ACL; the higher the cognitive level, the more complex suitable software for teaching the associated KSA is likely to be.

REFERENCES

Bloom, B., Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I: Cognitive Domain (Longman, Inc., New York, 1956).

Headquarters Department of the Army, Staff Organization and Operations, Field Manual 101-5 (U.S. Government Printing Office, Washington, DC, 1984).

APPENDIX A

COMMAND AND STAFF TASKS AND QUALIFICATIONS

The project required the identification of the KSA required of U.S. Army officers serving in field grade command and staff positions. First of all, the KSA include the general knowledge of military affairs and their relationship to the other concerns of the country that form the foundation of the professional qualifications of those officers. There are also the common KSA needed to perform the principal command and staff functions associated with field grade command and staff positions. Finally, there are the KSA required for the specific tasks that must be performed by the incumbents of each of the staff positions in performing each principal staff function.

No formal, officially approved listing of any of these categories of KSA exists. They may nevertheless be inferred, more or less accurately, depending on the knowledge and experience of those making the inferences, from the listing of commander and staff relationships, duties, responsibilities, functions, and procedures appearing in FM 101-5.

The present document begins with pertinent extracts from FM 101-5 (see pp 1-2 - 1-7 and 3-1 - 5-4 of FM 101-5) defining the Army's approach of command and control of peacetime and combat activities through its command and staff system. The results of an attempt to infer from FM 101-5 the KSA categorized above are then listed, together with an assessment of the cognitive levels that should be assigned both to each set of common KSA needed for performing each of the principal staff functions as defined in FM 101-5 and to each set relating to the performance of staff tasks by coordinating staff officers. The specific tasks listed by principal staff function in this document were identified from analysis of staff duties and responsibilities described in FM 101-5. The tasks were then analyzed to identify the particular KSA required for carrying them out in peace and in war with the efficiency expected of the tactical command coordinating staff officers who are charged with them.

The document also identifies KSA needed by support command coordinating staff officers and by special staff officers for performing each of the principal staff functions.

STAFF TASKS AND QUALIFICATIONS

The KSA required to perform effectively as a commander or staff officer depend on the level and type of command. Field grade command and service as principal staff officer at corps and division level require broad knowledge in at least the following fields:

- The roles of the military in American society.
- The general organization of the U.S. Department of Defense and the U.S. armed forces.
- The specific organization of the Army and its field commands.
- Strategic and operational considerations in the employment of U.S. forces, particularly of Army elements, together with those of allies.
- Current combined arms tactical doctrine for the employment of Army forces, including operations in conjunction with forces of the other services and of allies.
- Organization of the military forces of the Soviet Union.
- Soviet military doctrine and its effect on current U.S. military thinking.
- The duties, responsibilities, and functions of command and those of staff officers, in garrison and in the field, at all levels of the Army in the field.

In addition, field grade commanders and division and corps staff officers must know the details of the duties, responsibilities, functions, and procedures of those positions as described in FM 101-5. These details, here called staff tasks, have been inferred from the descriptions in the manual and are listed below by staff positions and by principal staff functions. It should be understood that the Army expects that officers eligible to be assigned to corps and division coordinating staffs will be able to serve effectively in any of the coordinating staff positions.

Furthermore, these same officers are assumed to be capable of commanding battalions and brigades. Officer professional development, including attendance at military educational institutions in particular, is consequently aimed at providing the necessary KSA at the appropriate time in officer careers.

In this document, specific tasks are explicitly associated with the KSA required to perform them. In addition, the cognitive level of the KSA needed for successful performance of each principal staff function and of each task has been assessed and is listed with the function or task. This is done explicitly for positions within the coordinating staff group at the corps and division level, which require participation in combined arms operations. In

contrast, members of special staffs and of support command coordinating staffs are primarily concerned with activities involving branch-specific combat support and combat service support although, of course, these officers must also be able to demonstrate understanding of current doctrine for combined arms operations. Personal staff group members principally assist the commander in matters specified by law or regulation as, for example, when the SJA is advising on legalities or the chaplain, on moral questions. None of these branch-specific functions is treated at CGSC from the point of view of specialists and, therefore, the tasks associated with performing them and the needed KSA are not addressed below.

Accordingly, the association of specific tasks with the required KSA to perform them properly is presented below for each of the principal staff functions as they are defined in FM 101-5. The tasks are grouped within each function by the coordinating staff officer performing them. An assessment of the cognitive level of the KSA needed for the proper performance of each task is also shown. In addition, common KSA needed for service on staffs of tactical and operational commands are presented for each function together with the highest associated cognitive level.

Function: Providing Information

The staff collects, collates, analyzes, and disseminates information flowing continuously into the headquarters. The staff rapidly processes and provides significant elements of this information to the commander. Staff officers perform this function by the following methods:

- Collecting information from all available sources.

Each staff officer establishes an information collection plan, which is recorded so that all applicable areas are scrutinized and all necessary information is maintained. Following the plan provides ready, sufficient information to support the staff officer's estimate of the situation. Mental flexibility is also required when abrupt changes in the situation cause important changes in what the commander needs to know and, therefore, in the content of the staff officer's estimate. Information collection plans normally are revised to reflect changing situations, experience, and desires of the commander.

- Collating and analyzing information in their respective areas of responsibilities.

Before information is presented to the commander, it is analyzed and condensed; and its significance, reliability, and completeness are assessed. The commander should not be burdened with more information than he needs, but he must be kept abreast of any changes that may have a bearing on a decision. The staff must not task subordinates to provide unneeded information.

- Disseminating the latest information available.

Staff officers disseminate the latest information available, without request, to the commander; the staff; and higher, adjacent, and lower units promptly. To do this, each staff officer must have a basic understanding of the information needs of all staff officers and commanders.

Common KSA Required

All coordinating staff officers must know all of the sources of data needed for the performance of their duties, which requires extensive knowledge of the organization for combat of the Army in the field, the data gathering means with which it is equipped, and the communications means available in the command for the dissemination of information up, down, and laterally. In addition, they must have a thorough knowledge of combined arms doctrine and operations. They must be able to understand the commander's intent behind his applications of the doctrine, to follow the flow of operations, and to judge effects of the information at their disposal on that intent and on operations. They must be able to assess the effect of unexpected information on their own command and on subordinate and higher commanders. They must be able to present their judgments and assessments coherently to the commander. They must be able to organize and supervise their staff sections to follow common staff procedures for collecting, recording, and disseminating information. Cognitive level: Synthesis

Task

KSA and Cognitive Level

G1

1. Collecting, analyzing, and presenting command data indicating authorized, assigned, and attached strength with which to evaluate the personnel situation in relation to the commander's course of action and to allocate resources. Sources of data include daily personnel status reports, gain and loss estimates, health services reports, provost marshal reports, and critical MOS shortage reports. Monitoring, collecting, and analyzing data affecting soldier readiness, such as moral and organizational climate, commitment, and cohesion.

Must know the personnel status reporting system including the meaning of each report and the cumulative significance for current and planned operations of all the reports. Must be able to judge soldier readiness by interpreting the data in reports and by personal observation during staff visits and inspections.

Cognitive level: Analysis.

2. Advising the commander and the staff about individual replacements and the operation of the replacement system.

Must know the replacement system and its components that service the command. Must be able to use the system to meet the needs of the command.

Cognitive level: Application.

3. Collecting and analyzing data on matters of morale or discipline; developing assessments, both positive and negative; and providing information to the commander, such as the frequency of absence without leave, desertion, court-martial offenses, arrests, and large number of requests for transfer.

Must know the indications reflecting the state of morale and discipline of units of the command. Must be able to find those indications among the data available to him and use them to present supported conclusions to the commander.

Cognitive level: Analysis.

4. Collecting data and advising on the miscellaneous areas for which the G1 is responsible. Must have a working knowledge of the various agencies whose services are available to the command for dealing with each of those areas and of the governing laws and regulations. In cases of marriage to foreign nationals, for example, he must be aware of pertinent local laws.
Cognitive level: Application.

G2

5. Processing information into intelligence, including collecting, recording, integrating, correlating, evaluating, and interpreting information and disseminating intelligence. Must be able to recognize the intelligence value of the information coming to his attention. Must be able to relate that value to the current intelligence picture. Must be able to judge the urgency with which both information and intelligence should be disseminated.
Cognitive level: Synthesis.
6. Identifying requirements for reconnaissance, surveillance, and target acquisition. Must know the current status of all intelligence-gathering agencies at his disposal, and how to make the best use of them. Must judge how to fill in the gaps in the current intelligence picture with the available technical means.
Cognitive level: Analysis.
7. Requesting, receiving, and processing information and intelligence from other intelligence sources to include adjacent units, higher echelons, and other services. Must know the communications channels for obtaining intelligence from all available
Cognitive level: Application.
8. Conducting intelligence preparation of the battlefield (IPB) before and during combat and providing IPB products to the staff and subordinate commands, which includes gaining a detailed knowledge of the enemy, terrain, and weather. The IPB process incorporates threat evaluation, determination and evaluation of areas of interest and areas of influence, terrain analysis, weather analysis, and threat integration. Must know the IPB process and its application to tactical operations.
Cognitive level: Synthesis.

9. Identifying enemy multidisciplinary (human intelligence [HUMINT], signal intelligence [SIGINT], and imagery intelligence [IMINT]) intelligence collection capabilities and efforts targeted against the command. Must have a comprehensive knowledge of enemy sensor technology and intelligence practices. Must know and be able to employ effectively the means available for detecting enemy intelligence collection.
Cognitive level: Application.
10. Assisting the G3 in planning deception operations by providing assessments of enemy means of processing information to include what the enemy considers to be indicators, which enemy level of command would take action on deception operations, the personalities of the intelligence officers and commander, and the enemy reactions to the deception story for use in future operations. Must know the sources available to him for obtaining the pertinent information about enemy order of battle and doctrine. Must be able to interpret battlefield events and arrive at conclusions concerning likely enemy behavior when confronted with deception operations.
Cognitive level: Analysis.
11. Collecting and maintaining current information concerning personnel and information security. Must know security regulations and procedures.
Cognitive level: Application.
12. Collecting and analyzing information for threat and collection management and for maintaining a current estimate of the enemy situation. Must be able to assess the level of intelligence about enemy capabilities required to support a G3 estimate of relative friendly and enemy combat strength. Must be able to focus collection effort to provide at least that level of intelligence.
Cognitive level: Synthesis.
13. Reviewing subordinate unit plans, orders, and SOPs for collection management and surveillance operations. Must know how to provide for an integrated command intelligence collection effort, including effective use of surveillance means at the disposal of subordinate units.
Cognitive level: Analysis.
14. Evaluating, with the chemical officer, the vulnerability of the command's disposition to enemy-employed nuclear and chemical weapons. Must know how to conduct a vulnerability analysis, which involves knowledge of nuclear and chemical weapon effects and of enemy delivery capabilities and weapons.
Cognitive level: Application.
15. Determining intelligence training requirements for the command. Must know how to assess the level of intelligence training in units, in staff sections, and in key individuals of the command.
Cognitive level: Analysis.

16. Collecting and analyzing information with which to assist the G3 in targeting, planning, executing, assessing results of electronic warfare (EW) weapons and employment. Must know the capabilities and limitations of EW technology and its employment. Must be able to assess and enemy capability to engage in EW and his vulnerability to friendly EW. Cognitive level: Application.
17. Providing input to appropriate staff sections concerning unconventional warfare and civil-military operations, enemy capabilities for employment of NBC weapons, criteria for judging when enemy targets have been defeated using NBC weapons and the anticipated enemy reaction, and denial operations and obstacles. Must have detailed knowledge of the capabilities and limitations of the pertinent technology and modes of employing it for each of the kinds of operations listed. Must be able to assess counterpart enemy capability to assist the G3 and the G5. Cognitive level: Application.
18. Determining map requirements. Must be able to canvass elements of the command for their map requirements and to reconcile them with the availability. Cognitive level: Knowledge.
19. Collecting and analyzing information for preparing the intelligence portion of the command SOP. Must know which intelligence activities are routine or subject to repetitive execution. Cognitive level: Application.
20. Collecting and analyzing information for preparing the intelligence and CI portions of plans and orders, reports, summaries, and studies. Must know what intelligence matters should be covered in each of the documents if they are to serve their purposes. Cognitive level: Application.
21. Collecting and analyzing information concerning the command's need of sensitive compartmented intelligence (SCI). Must know the kinds of information that SCI comprises and how to obtain it when required. Cognitive level: Comprehension.
22. Providing intelligence information and threat analysis for RAP (rear area combat operations [RACO] and area damage control [ADC]) to the G3. Must know how to assess rear area threats in light of the means available to the enemy for engaging in operations against the rear area. Cognitive level: Application.
- G3
23. Collecting and analyzing information necessary for maintaining a current operation estimate of the situation in coordination with other staff officers. Must know how to make an operation estimate and how to obtain required information from the available sources with which to estimate relative combat strength and formulate feasible courses of action. Cognitive level: Synthesis.

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| <p>24. Gathering contributions from other staff sections for the overall command SOP.</p> | <p>Must know the purposes for compiling the command SOP, which command elements should contribute, and how to integrate the contributions.
Cognitive level: Comprehension.</p> |
| <p>25. Collecting information for preparing operations plans and orders; reviewing plans and orders of subordinate units.</p> | <p>Must be able to prescribe to the other members of the staff the information required for implementing the commander's guidance or decision. Must be able to integrate missions of subordinate units into plans and orders and judge whether they have been understood and appropriately addressed in their own plans and orders.
Cognitive level: Comprehension.</p> |
| <p>26. Maintaining current information regarding resources of the command.</p> | <p>Must know the organizations of the command, including their authorized personnel strength and equipment, and their capabilities. Must be able to interpret indications of their current combat readiness.
Cognitive level: Analysis.</p> |
| <p>27. Maintaining current information for inclusion in operational records and reports.</p> | <p>Must know the applicable staff procedures for recording and reporting the pertinent information. Must be able to supervise the section in following the procedures specified for the command in the appropriate documents.
Cognitive level: Comprehension.</p> |
| <p>28. Collecting and analyzing information pertinent to conducting EW activities.</p> | <p>Must know friendly and enemy capabilities and limitations for conducting EW operations. Must be able to recognize and analyze information pertinent to integrating EW activity into current or planned operations or to countering enemy EW.
Cognitive level: Analysis.</p> |
| <p>29. Collecting and analyzing information pertinent to conducting psychological operations (PSYOP).</p> | <p>Must know the capabilities and limitations of the means, friendly and enemy, of conducting PSYOP. Must be able to recognize and analyze information pertinent to integrating PSYOP into current or planned operations of the command or to countering enemy PSYOP.
Cognitive level: Analysis.</p> |

30. Collecting and analyzing information pertinent to operations security (OPSEC) of the command. Must know how to evaluate command OPSEC in coordination with the G2. Must be able to assess vulnerabilities of the command and to recognize opportunities to improve OPSEC.
Cognitive level: Analysis.
31. Determining essential elements of friendly information, including nuclear vulnerability assessment and, in coordination with the chemical officer, maintaining the radiation exposure status of elements of the command. Must know how to conduct vulnerability analyses. Must know nuclear weapon effects and principal characteristics of enemy tactical nuclear weapon systems.
Cognitive level: Analysis.
32. Collecting and analyzing information pertinent to countersurveillance activities and countermeasures. Must know the capabilities and limitations of surveillance means and countermeasures, friendly and enemy. Must be able to assess the effectiveness of the employment of those means and their countermeasures by both sides.
Cognitive level: Application.
33. Collecting and analyzing information pertinent to deception activities of the command. Must know how to recognize opportunities to engage in deception operations and indications of the effectiveness of current deception operations of the command.
Cognitive level: Application.
34. Receiving input from the G4 and other staff officers concerning ADC plans; ensuring that ADC plans of subordinate units have been reviewed to ensure their adequacy and also to ensure their compatibility with command ADC priorities. Must know how to assess ADC requirements. Must be able to mobilize command resources to perform ADC in an appropriate plan and to assess conformance of subordinate unit ADC plans.
Cognitive level: Analysis.
35. Obtaining input from all staff sections concerning the impact of RACO and ADC activities upon their staff responsibilities. Must know the disposition of elements of the command and how they are involved in RACO and ADC planning. Must be able to judge from incoming information when reallocation of resources might become necessary in light of competing requirements of command operations and RACO and ADC.
Cognitive level: Comprehension.
36. Developing and maintaining the troop list, including review and revision, to ensure the assignment Must know the capabilities of every type unit likely to be required for operations or for support, including those of the

of the numbers and types of units needed to support and to accomplish the mission.

command. Must be able to translate the commander's guidance and/or decision into requirements for specific capabilities by type and amount.

Cognitive level: Comprehension.

37. Collecting and analyzing force development information including planned or programmed force structure, manpower utilization and requirements, ceilings, and guidance. Gathering information through manpower and equipment surveys for manpower reports (compiling, recording, and reporting data for information, planning and programming, allocation, and justification).

Must know how to assess the efficiency of resource utilization by the command. Must be able to use staff procedures prescribed for gathering the necessary information and to analyze the information for its value as an indicator of manpower utilization throughout the command.

Cognitive level: Analysis.

38. Identifying training requirements based on assigned missions and the training status of units of the command.

Must know how to evaluate the state of training of units of the command, including how to collect the pertinent information.

Cognitive level: Analysis.

39. Compiling training records and reports.

Must know and be able to follow staff procedures for collecting, recording, and reporting the necessary information.

Cognitive level: Comprehension.

40. Maintaining unit readiness status information for each unit in the command.

Must know what information is relevant for judging unit readiness, including what to look for in staff visits and inspections. Must be able to keep the information current for each unit.

Cognitive level: Analysis.

41. Determining, in coordination with the G4, training requirements engendered by the introduction of new materiel.

Must be able to determine how much training operators will need to learn to operate new equipment.

Cognitive level: Comprehension.

G4

42. Determining supply requirements.

Must know how to obtain information relating to predicted and actual rates of supply expenditure in the various units of the command.

Cognitive level: Comprehension.

43. Determining the Controlled Supply Rate (CSR) for ammunition and

Must know how the supply system functions for ammunition and other supplies

the current status of other critical supplies.

critical to operations. Must be able to implement a reporting plan in the command that informs him of current status of critical items.

Cognitive level: Comprehension.

44. Collection information regarding excess, surplus, salvage, and captured supplies and equipment.

Must be able to ensure that records of supplies and equipment in the command are kept accurately and that the capture of equipment is accurately and promptly reported.

Cognitive level: Application.

45. Monitoring and analyzing equipment readiness status.

Must know the equipment status reporting system. Must be able to recognize indications that problems may be occurring in maintaining critical equipment.

Cognitive level: Application.

46. Determining maintenance workload requirements; assessing the status of maintenance organizations, personnel, skills, training, tools, test equipment, and facilities.

Must know the maintenance system in the command. Must be able to interpret reports and results of unit inspections to arrive at the required assessments.

Cognitive level: Application.

47. Monitoring the availability of operational readiness float equipment.

Must be able to identify equipment critical to accomplishing unit missions and maintain current records of the location of float equipment.

Cognitive level: Comprehension.

48. Monitoring the status of all modes of transportation available to the command.

Must be able to maintain accurate records of the location and status of transportation units and equipment.

Cognitive level: Comprehension.

49. Determining requirements for construction of facilities and installations, excepting fortifications and signal.

Must know needs for facilities of all assigned and attached units of the command and what is available.

Cognitive level: Application.

50. Determining requirements for real estate, including billets and shelter.

Must know needs for space and shelter of all assigned and attached units of the command and what is available.

Cognitive level: Application.

51. Determining the adequacy of logistic support.

Must be able to assess indications of the quality of logistic support, for example, the nature and number of reported failures. Must be able to anticipate future needs for support.

Cognitive level: Analysis.

52. Determining requirements for additional logistic support units.

Must know the capabilities of every type of logistic support unit assigned to or needed by the command. Must be able to anticipate requirements for support of future operations of the command.
Cognitive level: Application.

53. Identifying requirements for use of local civilians, enemy prisoners of war (EPW), and civilian internees/detainees in logistic support operations.

Must know the needs of the logistic support of the command for additional manpower of particular skills and the availability of those skills among the groups listed.
Cognitive level: Comprehension.

54. Collecting and analyzing information for preparing logistic estimates, reports, orders, and plans.

Must know what information and analysis are required for each of the listed documents. Must be able to perform the necessary analysis to determine how courses of action under consideration will be adequately supported.
Cognitive level: Analysis.

55. Determining logistic training requirements.

Must be able to assess the state of training of each of the various types of logistic support units of the command.
Cognitive level: Analysis.

56. Providing staff input to the G3 concerning RACO and ADC considerations involving CSS units in the rear area and the priority required for continued logistic support to forward combat units.

Must know the nature of the threat to RAP, the capabilities of CSS units to provide RAP, and the logistic support requirements for current and planned operations.
Cognitive level: Analysis.

G5

57. Collecting and analyzing information concerning civil-military cooperation, to include, in coordination with the G3, the impact of PSYOP on the civilian population.

Must know the state of relations with the local population and current and planned operations of the command including PSYOP. Must be able to assess the effect of operations on the population.
Cognitive level: Analysis.

58. Collecting and analyzing information concerning CA activities for command support operations and/or governmental support operations.

Must know how current and planned command operations are affecting CA and governmental support activities and how CA activities support or hinder both kinds of operations.
Cognitive level: Analysis.

59. Collecting and analyzing information for preparing current estimates and conducting surveys and studies for CA activities. Must know the elements of the CMO estimate and the techniques of acquiring the necessary information and of conducting surveys and doing the relevant studies.
Cognitive level: Application.
60. Collecting and analyzing information for preparing the portions of operation and administrative/logistic plans and orders concerning CA activities and civil-military cooperation. Must know the CA implications of the commander's plans and decisions. Must be able to integrate planned CA activities into the plans and orders of the command.
Cognitive level: Analysis.
61. Determining requirements for CA units and personnel to accomplish CA activities of the command. Must know the capabilities of CA units and CA-trained personnel. Must be able to design and gain approval for a program of CA activities that assists the command.
Cognitive level: Application.
62. Collecting and analyzing information in the fields of government, economics, public facilities, and special functions, such as displaced persons, refugees, evacuees; arts, monuments, and archives; cultural affairs; and civil information. Must know the relevance of each activity to the command. Must be able to make effective use of the agencies available to him for acquiring the necessary information. Must be able to assess the mutual effects of civil affairs and command operations.
Cognitive level: Analysis.
63. Providing information to the G2 concerning OPSEC countermeasures MI aspects of CA activities. Must know the civilian threats to OPSEC of the command. Must be able to analyze CA activities for their MI significance.
Cognitive level: Analysis.
64. Serving as the principal advisor to the commander and staff on matters about civil population, local government, institutions, and economy. Must have general knowledge of the country in which the command is operating. Must be able to add to that general knowledge by using the available sources of current information.
Cognitive level: Application.
65. Determining availability of local personnel, materiel, service resources, and economic resources. Must know and be able to use the appropriate sources of information about each resource.
Cognitive level: Comprehension.
66. Determining requirements of military resources for population and resource control programs. Must know the need for such programs and the civilian resources available.
Cognitive level: Comprehension.

67. Observing and analyzing, with the public affairs officer, trends in public opinion.

Must know the local opinion makers and be able to sample their opinions and those of the general population. Must be able to detect trends.

Cognitive level: Analysis.

68. Advising on the impact of friendly nuclear and chemical munitions employment, which includes preparing the collateral damage preclusion overlay, and on the impact of enemy NBC munitions employment on the civilian population.

Must know NBC weapon effects as well as the general characteristics of friendly and enemy weapon systems and employment doctrine. Must be able to relate nuclear and chemical use to the mission of the command.

Cognitive level: Analysis.

69. Providing technical advice and assistance in the reorientation of enemy defectors, EPWs, and all categories of dislocated civilians (displaced persons, refugees, and evacuees).

Must know and be able to use his knowledge of the region of operations and the capabilities of the CA units in the area.

Cognitive level: Application.

70. Advising and assisting local civilian officials in the creation and maintenance of public order and safety.

Must be able to use the capabilities of the specialists in CA units and among other CA-trained personnel in the command.

Cognitive level: Application.

71. Advising and assisting with the staff judge advocate to ensure that the commander's legal obligations to the local population are fulfilled.

Must know generally what the applicable laws require and the usual methods of compliance.

Cognitive level: Application.

Common KSA Required of Other Staff Officers

Coordinating Staff, Support Command

Coordinating staff officers of support commands must possess the same KSA required of their counterparts in tactical commands in regard to providing information within their commands and in very nearly the same degree. In addition, they must know and be able to use the means of keeping the supported command informed of CSS matters for which the support command is responsible and in which the tactical command has an interest. They must also know the details of providing CSS in the areas for which they are responsible, which includes knowing the capabilities and current state of units of the command. It also includes knowing the requirements for combat service support (CSS) of the supported command in conducting its current and planned operations. In addition rear area protection (RAP) is a joint concern of both commands, and both coordinating staffs are involved in passing information concerning rear area combat operations (RACO) and area damage control (ADC).

The support command coordinating staff also receives and provides information concerning electronic warfare psychological operations, operations security (EW), PSYOP, OPSEC, and deception activities of both commands. Members of the staff must be able to integrate activity in those areas with that of the supported command, in coordination with its coordinating staff. Like their tactical command counterparts, coordinating staff members must be able to organize and supervise their staff sections to perform all necessary tasks in a timely and effective manner. All support command staff members must also be able to use common staff procedures for the collecting, recording, and disseminating of information.

Cognitive level: Synthesis.

Special Staff

Special staff officers must also possess broadly the same KSA as those required of coordinating staff officers in providing information. In addition, each must know the current state of the capabilities available to the command in the area for which he is responsible and the state and effectiveness of corresponding enemy capabilities and ensure that the information is available to those who have need of it. They all must have a broad appreciation of the mission of the command and the commander's alternatives, plans, and orders for accomplishing it. They must also know and be able to use common staff procedures for handling information.

Cognitive level: Synthesis.

Function: Making Estimates

The staff prepares estimates to assist the commander in making decisions. A staff estimate consists of significant facts, events, and conclusions (based on current or anticipated situations) and recommendations on how available resources can best be used. The commander uses recommendations to select feasible courses of action for further analysis. Adequate plans hinge on early and continuing estimates by staff officers. Failure to make these estimates may lead to errors and omissions in the development of a course of action.

The purpose of the estimate of the situation is to collect and analyze relevant information for developing, within the time limits and available information, the most effective solution to a problem. The estimate is applicable to any situation and to any level or type of command. Although normally used in solving tactical problems, it is applicable to other military activities. Anyone may use this process. While the staff officer uses the format of the appropriate staff estimate to provide conclusions and recommendations to the commander, he uses the commander's estimate format to select a course of action for accomplishing a specific task in his field of interest.

The commander's estimate results in a decision on how to accomplish a given mission. After considering the mission, enemy, terrain, troops available, time, and other relevant factors, a decision is reached. The estimate is based on personal knowledge of the situation, on ethical considerations, and on staff estimates.

Commanders of combat support and CSS units prepare estimates in support of operations to determine the supportability of tactical courses of action and the best course of action for executing their specific mission. The estimate is often prepared in the commander's role as a special staff officer.

The staff assists the commander in reaching a decision by making estimates in their assigned areas of responsibility. These estimates analyze the influence of factors within the staff officer's particular field of interest on the accomplishment of the commander's mission and identify those factors that affect formulation, analysis, and comparison of feasible courses of action. The staff estimate results in conclusions and recommendations, which identify the best course of action. In making an estimate, the staff officer consults with other staff officers and appropriate agencies to ensure that he considers all factors. Besides supporting the commander's estimate, staff estimates assist the staff officers in determining the detailed mission. Staff officers prepare estimates on a variety of subjects. Coordinating and special staff officers may prepare estimates that cover all or a portion of their staff responsibilities. Staff estimates may be presented either orally, as briefings, or prepared as written document. Often, only the staff officers' conclusions or recommendations are presented to the commander.

Common KSA Required

Coordinating staff officers must be able to select the significant facts for making staff estimates from among their current store of information. they must be able to use those facts to formulate feasible courses of action in their areas of interest for accomplishing the mission. They must be able to analyze those courses of action for their advantages and disadvantages and to compare them and identify the best for accomplishing the mission with available resources. They must be able to organize and supervise their staff sections to follow common staff procedures for problem identification and analysis, staff coordination, completed staff action, military writing, staff research, and applicable administrative functions.

Cognitive level: Evaluation.

G1

Personnel Estimate

The personnel estimate analyzes personnel and administrative factors in soldier and unit effectiveness as they affect accomplishment of the mission. From this estimate, conclusions are drawn and recommendations are made concerning troop preparedness, the feasibility of various courses of action from the G1 point of view, and the effects of each course of action on personnel operations.

Task

KSA and Cognitive Levels

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| 72. Preparing and maintaining estimates of the current and projected strength and soldier readiness of each unit of the command, including conclusions regarding their adequacy for accomplishing the mission and alternate courses of action for dealing with possible deficiencies. | Must be able to assess unit effectiveness from the point of view of its personnel strength and the readiness of its soldiers, individually and organizationally. Must be prepared to analyze proposed courses of action on the basis of assessed comparative unit effectiveness. Cognitive level: Analysis. |
| 73. Maintaining current estimates of personnel replacement requirements, including requirements for individual replacements and projected critical MOS and skills based on estimated casualties, nonbattle losses and foreseeable administrative losses, and alternatives for dealing with failures of the replacement system. | Must know and be able to use the system for projecting personnel losses in elements of the command. Must be able to focus on the status of critical manpower. Must know how the available critical skills could be redistributed to conform with the G3 priorities. Cognitive level: Analysis. |
| 74. Maintaining current estimates of personnel services capabilities of the command, including personnel administration, morale support, health, legal, chaplain, postal, essential financial support, public affairs, and recreation (rest and recuperation) and leave, together with alternative measures for dealing with shortcomings. | Must be able to assess the state of personnel services in the command and discover the reasons for shortcomings and failures. Must be able to advise on what additional capabilities providing remedies could be made available to the command. Cognitive level: Analysis. |
| 75. Maintaining current estimates of the state of the command in regard to discipline, law, and order; civilian personnel; and safety and accident prevention, again including alternative policies. | Must know the key indicators to use in making the required estimates. Must be able to conceive measures for making necessary improvements in each of the areas. Cognitive level: Analysis. |

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| <p>76. Maintaining a current estimate of command capability to provide administrative support to other personnel (EPW and augmentees [non-U.S. Forces, Third Country Nationals, civilian internees, and others]), to include support of outside agencies, for example, the American Red Cross, together with appropriate alternative policies.</p> | <p>Must know the kinds and amounts of support required and that which command resources could provide. Must be able to specify to higher headquarters any additional capability required.</p> <p>Cognitive level. Analysis.</p> |
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G2

Intelligence Estimate

The intelligence estimates analyzes the characteristics of the area of operations and the enemy situation because they can affect the accomplishment of the mission. This estimate draws conclusions and makes recommendations, as appropriate, concerning the effect of the area of operations on friendly and enemy forces, probable enemy courses of action, enemy vulnerabilities that can be exploited, and the feasibility of various friendly courses of action.

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| <p>77. Maintaining a current intelligence estimate of the situation in coordination with other staff officers and with agencies charged with collecting intelligence. This process begins with IPB before combat and requires building up an increasingly detailed picture of enemy capabilities and intentions, with conclusions regarding probable enemy courses of action and their likely effects, and, if appropriate, alternatives for minimizing their adverse impact on the accomplishment of the mission.</p> | <p>Must know the status of intelligence concerning the enemy forces facing the command. Must be able to assess what key elements are not yet known and focus command collection effort on them. Must know enemy doctrine, tactics, and habits to be able to formulate, analyze, and compare his feasible courses of action as he would do so. Must know the capabilities of the command for countering. Must be able to compare proposed courses of action from the point of view of the effect of likely enemy reaction to each.</p> <p>Cognitive level: Evaluation.</p> |
| <p>78. Estimating the command's vulnerability to hostile intelligence in general and in support of OPSEC, with alternative measures for reducing it if appropriate.</p> | <p>Must know the command's capabilities for detecting hostile collection effort. Must be able to conceive of countermeasures, including deception.</p> <p>Cognitive level: Analysis.</p> |
| <p>79. Prepare staff estimates to support G3 in deception operations, EW, and RAP, including appropriate alternative courses of action.</p> | <p>Must know the current threat to the command in each area. Must be able to assess the vulnerabilities in the enemy's posing of the threats.</p> <p>Cognitive level: Analysis.</p> |

Operation Estimate

The operation estimate analyzes factors affecting the accomplishment of the mission to determine all reasonable courses of action and the effect of these courses of action on friendly forces. This estimate recommends a course of action for accomplishing the mission. The operation estimate and the commander's estimate use the same format and generally have the same content; however, the operation estimate culminates in a recommendation rather than a decision.

80. Maintaining a current operation estimate of the situation in coordination with other staff officers, including tactical deception operations, EW, PSYOP, OPSEC, and RAP. This responsibility involves continuously formulating, analyzing, and comparing alternate feasible courses of action as changes in the situation occur and thus being prepared to recommend a course of action on short notice if required. It also involves continuous monitoring of operations to determine whether resources for both maneuver and support are being employed to best effect, or, if necessary, to consider recommending changes in task organization and in missions assigned to subordinate units.

Must be able to assess the relative combat strength of friendly and enemy forces in coordination with the G2. Must know the means, friendly and enemy, for engaging in each kind of operation, including their capabilities and vulnerabilities. Must be able to apply tactical doctrine in command's disposition to enemy-tactical courses of action with regard to both maneuver and firepower for accomplishing the mission of the command. Must be able to follow the course of operations through various sources of information available to him.

Cognitive level: Evaluation.

81. Formulating, analyzing, and comparing alternate courses of action for integrating schemes of tactical maneuver and/or dispositions and fires, including nuclear and chemical fires and including, as appropriate, alternative plans for requesting nuclear and chemical release, preparing predictions of fallout from friendly employment of nuclear weapons, and preparing predictions of downwind hazard from friendly chemical fires.

Must know the principles involved in the integration, including the specific technical details of effects of employing each of the weapons. Must be able to use the FSE of the TOC to coordinate fires in support of the commander's concept of operations.

Cognitive level: Synthesis

82. Maintaining the radiation exposure status of units of the command.

Must know the effects in general on troops of multiple exposures to radiation.
Cognitive level: Comprehension.

Logistic Estimate

The logistic estimate analyzes logistic factors affecting accomplishment of the mission. This estimate draws conclusions and makes recommendations concerning the logistic feasibility of various courses of action and the effects of each course of action on logistic operations.

83. Maintaining a current logistic estimate of the situation in coordination with other staff officers and the commander and staff of the support command and/or other CSS agencies. Must be able to assess the combat service supportability of each feasible tactical course of action being considered by the G3 as well as the support of current operations.
Cognitive level: Application.

84. Monitoring the performance of CSS to determine its adequacy and preparing alternatives for dealing with shortfalls when appropriate. In particular, close coordination with the G3 is involved for anticipating CSS requirements for future operations. Must be able to assess the state of CSS in the command and to project it for current and planned operations. Must know current CSS capabilities and be able to specify to higher headquarters additional needs for CSS.
Cognitive level: Analysis.

The Civil-Military Operations (CMO) Estimate

The CMO estimate analyzes the influence of CMO factors on accomplishment of the mission. CMO estimates draw conclusions and make recommendations concerning the feasibility of various courses of action from the G5 perspective as well as the effects of each course of action on CMO.

85. Maintaining a current CMO estimate in coordination with other staff officers and the local civilian government and agencies, including formulating, analyzing, and comparing alternate ways of dealing with anticipated difficulties. Must know how to assess the effects of CA activities on the courses of action being considered by the G3. Must know the command's CMO capabilities and how they could be augmented if necessary.
Cognitive level: Analysis.

Common KSA Required of Other Staff OfficersCoordinating Staff, Support Command

Coordinating staff members of support commands must also be able to make staff estimates in their areas of interest by selecting the significant pertinent elements of information from the flow of data passing through their sections. Some of these estimates will cover matters about which their commander will make decisions, and others will be passed to the coordinating staff of the

supported command to be used in making tactical decisions. The staff members from the support command must formulate, analyze, and compare alternative methods of providing CSS to be able to recommend those that will make the best use of CSS resources in the courses of action being considered for accomplishing the mission of the supported command. They also must be able to organize and supervise their staff sections to use the common staff procedures involved in making and presenting estimates.

Cognitive level: Synthesis.

Special Staff

Special staff members of both tactical and support commands will be making staff estimates in their own areas of interest as well as assisting coordinating staff officers in making their estimates. They must therefore possess the same KSA needed for the process of formulating, analyzing, and comparing alternatives as those which coordinating staff members must possess. In addition, they must be able to communicate details of proposed alternatives in their areas of interest to their responsible coordinating staff officer clearly enough that their effects on the courses of action being considered by the commander and staff of the tactical command can be appropriately weighted. Again, like coordinating staff officers, they must know and be able to use the common staff procedures for making estimates that are used by the headquarters with which they are serving.

Cognitive level: Synthesis.

Function: Making Recommendations

Staff officers make recommendations to assist the commander in reaching decisions and establishing policies. Staff officers also offer recommendations to one another and to subordinate commanders. In the latter case, recommendations are for assistance only; they do not carry implied command authority.

Recommendations may be presented as written estimates or studies, or they may be presented orally. Whether the procedures are formal or informal, the staff officer must carefully analyze and compare all feasible alternatives using the best information available. He candidly and objectively presents the alternatives to the commander clearly showing the advantages and disadvantages. The staff officer must be thoroughly prepared to recommend a best alternative to the commander. His preparation includes coordination with other staff officers whose areas of interest will be affected by the recommendation. The recommendation should be stated in a form that requires only the commander's approval or disapproval.

Common KSA Required

Coordinating staff officers must know the commander's intent in accomplishing the mission of the command, including the employment of subordinate commands. They must be able to judge the supportability of feasible courses of action for implementing the commander's intent and to recommend the single course of action that, from their perspective, makes best use of the available

resources. They must be able to give convincing reasons for their recommendations based on their analyses of the influence of the factors in their particular areas of interest. They must be able to integrate into their own analyses factors affecting the areas of interest of the other staff officers and to coordinate to expose points of difference in conclusions reached to the chief of staff or, if necessary, to the commander. They must be able to organize and supervise their staff sections to follow the common staff procedures for problem identification and analysis, staff coordination, completed staff action, information dissemination, military writing, staff research, and administrative measures applicable to the function of making recommendations.

Cognitive level: Evaluation.

<u>Task</u>	<u>KSA and Cognitive Level</u>
	G1
86. Recommending policies and procedures to eliminate problems and deficiencies in soldier readiness and to enhance morale.	Must be able to diagnose problems in these areas accurately and to conceive acceptable solutions for implementation by subordinate commanders. Cognitive level: Synthesis.
87. Preparing and recommending consistently with the G3 priorities, policies to govern assignment of replacement personnel, including small units, and weapon system critical MOS management.	Must be able to assess the effects of alternative personnel assignment policies on the commander's chosen course of action. Cognitive level: Synthesis.
88. Recommending, in coordination with special staff officers with specific knowledge in each area, policies as required concerning personnel services, morale support activities, administrative AG activities, health, chaplain, legal and postal services, and essential financial and public affairs support.	Must be able to assess the effects of alternative policies in each of the areas on current and planned operations of the command. Cognitive level: Analysis
89. Recommending recreation and leave policies.	Must be able to assess the effects of alternative policies.
90. Recommending appropriate action as required concerning matters of discipline.	Must be able to recognize indications that the state of discipline in units of the command requires action. Must be able to conceive remedial measures for implementation by commanders. Cognitive level: Evaluation.

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| 91. Recommending the command safety and accident prevention program. | Must know the principles of sound programs in these areas.
Cognitive level: Application. |
| 92. Recommending manpower allocation within the headquarters, especially in the use of personnel authorized in bulk. | Must know headquarters management, the preferences of the chief of staff, and the needs of the headquarters commandant.
Cognitive level: Application. |
| 93. Recommending policies as required in the miscellaneous areas for which the G1 is responsible. | Must know the command's capabilities in each of the areas and how to apply them when the need arises.
Cognitive level: Application. |

G2

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| 94. Recommending priority intelligence requirements (PIR) and information requirements (IR). | Must be able to judge which are the significant intelligence gaps and what are the command's other needs for information.
Cognitive level: Analysis. |
| 95. Recommending unit tasking for carrying out reconnaissance, surveillance, and target acquisition missions. | Must know the command's capabilities in these areas and be able to assess the effects on operations of alternative methods of employing them.
Cognitive level: Analysis. |
| 96. Recommending, as a result of the IPB process, the command's area of interest and the subordinate commands' areas of influence. | Must be able to assess enemy capabilities to operate in areas with which the command is concerned in accomplishing its mission.
Cognitive level: Analysis. |
| 97. Recommending targets to the FSCoord. | Must have suitably accurate information regarding the targets and know the capabilities available to the command for attacking them.
Cognitive level: Application. |
| 98. Recommending a censorship policy if required. | Must know that, without censorship, critical knowledge of current or planned operations of the command would probably be compromised.
Cognitive level: Evaluation. |
| 99. Recommending to the G3 proposed areas of operations. | Must be able to use the available intelligence to predict the enemy's probable uses of the areas in which the command may operate.
Cognitive level: Analysis. |

100. Recommending priorities for the command map program (acquisition, production, reproduction, and distribution).

Must know the requirements for maps of all elements of the command and the available sources of supply.

Cognitive level: Application.

101. Recommending the employment of MI units.

Must know the capabilities of the MI units and the pertinent needs of the command.

Cognitive level: Application.

G3

102. Recommending, in coordination with members of the coordinating and special staffs, priorities for allocating critical resources of the command, including time, personnel, supplies, and equipment, such as (list is not inclusive) ammunition basic loads, nuclear and chemical ammunition, required supply rate of ammunition, the CSR of ammunition for subordinate units, the requirement for unit replacements, and electronic frequencies within limitations imposed by control measures, for example, CEOI and all other means used to control use of frequencies.

Must know the commander's intent and be able to interpret it in terms of allocating critical resources appropriately. Must know the current and projected status of each critical resource and the prospects of obtaining augmentations.

Cognitive level: Analysis.

103. Recommending task organization and assignment of missions to subordinate elements of the command.

Must be able to translate the commander's intent into missions for subordinate elements.

Cognitive level: Analysis.

104. Recommending integrated schemes of tactical maneuver and/or, with the FSCoord and chemical officer, dispositions and fires, including nuclear and chemical fires.

Must be able to integrate schemes of maneuver and supporting fires to implement the commander's intent.

Cognitive level: Synthesis.

105. Recommending boundaries and other control measures.

Must be able to apply combined arms tactics to control measures.

Cognitive level: Application.

106. Recommending the general location of command posts.

Must know the tactical and technical principles involved.

Cognitive level: Application.

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| <p>107. Recommending, in coordination with the chemical officer, troop safety criteria and the radiation exposure guide, and the MOPP.</p> | <p>Must know the technical details on which to base his recommendations. Must be able to reconcile them with the commander's guidance for accomplishing the mission.
Cognitive level: Analysis.</p> |
| <p>108. Recommending the deception story in coordination with the G2.</p> | <p>Must know tactical doctrine and the role of deception.
Cognitive level: Application.</p> |
| <p>109. Recommending tactical areas of responsibility for RACO.</p> | <p>Must be able to envision roles in RACO for all units of the command.
Cognitive level: Analysis.</p> |
| <p>110. Recommending the composition and size of RAP tactical forces.</p> | <p>Must be able to balance RAP requirements against the need to accomplish the mission.
Cognitive level: Synthesis.</p> |
| <p>111. Recommending, in coordination with the FSCoord, the prescribed nuclear load and the prescribed nuclear stockage (PNS) for all assigned and attached nuclear-capable units.</p> | <p>Must be able to apply the commander's guidance to nuclear employment doctrine and logistic constraints.
Cognitive level: Analysis.</p> |
| <p>112. Recommending, in coordination with the chemical officer and the FSCoord, the number of chemical weapons by type to be carried by assigned and attached delivery units.</p> | <p>Must be able to apply the commander's guidance to chemical employment doctrine and logistic constraints.

Cognitive level: Analysis.</p> |
| <p>113. Recommending priorities for phasing in or replacing personnel and equipment in the units of the command.</p> | <p>Must be able to assess the relative importance of the roles of subordinate elements in current operations.
Cognitive level: Analysis.</p> |
| <p>114. Recommending force development actions such as the planned or programmed force.</p> | <p>Must be able to apply doctrine and guidance to assess future requirements.
Cognitive level: Analysis.</p> |
| <p>115. Recommending manpower utilization and allocations to subordinate commands within established ceilings and guidance.</p> | <p>Must be able to balance his recommended priorities and command guidance.

Cognitive level: Application.</p> |
| <p>116. Developing and recommending revisions to unit force data documenting the command organization and authorizations of personnel and equipment.</p> | <p>Must be able to recognize departures from the norm in the requirements imposed by command operations and to devise appropriate corrections.
Cognitive level: Analysis.</p> |

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| <p>117. Recommending the command training program including its budget.</p> | <p>Must be able to assess the state of training of the command.
Cognitive level: Analysis.</p> |
| <p>118. Recommending the prescribed load, that quantity of combat essential supplies and spare parts other than ammunition and the class IX prescribed load list, nuclear and chemical.</p> | <p>Must be able to predict accurately the rates at which the command will consume supplies during operations.

Cognitive level: Analysis.</p> |
| <p>119. Recommending, in coordination with the G3, maintenance priorities.</p> | <p>Must know which elements of the command will have the most demanding role in operations, thus requiring priority.
Cognitive level: Application.</p> |
| <p>120. Recommending, in coordination with the PM and the transportation officer, procedures for controlling transportation movements, both surface and air.</p> | <p>Must know the applicable techniques and be able to select those best suited to the command's operations.

Cognitive level: Application.</p> |
| <p>121. Recommending construction projects, except fortifications and signal facilities.</p> | <p>Must be able to arrive at priorities after assessing the construction effort available.
Cognitive level: Application.</p> |
| <p>122. Recommending, in coordination with appropriate members of the staff, policies as required for real estate management and control, food service, fire protection, personal services (bath and laundry services and clothing exchange), and graves registration.</p> | <p>Must be able to assess the effect on the command of alternative policies proposed by other staff members for these services.

Cognitive level: Analysis.</p> |
| <p>123. Recommending employment of logistic support units, including the establishment of priorities.</p> | <p>Must know the tactical courses of action being considered, including tasking of subordinate units.
Cognitive level: Application.</p> |
| <p>124. Recommending, in coordination with the G3, the general location of division support areas and the movement of logistic support units.</p> | <p>Must be able to position CSS units so that they will be able to support operations without interfering.
Cognitive level: Application.</p> |
| <p>125. Recommending to the G3 the MSR.</p> | <p>Must be able to assess the capacity of the area road net and adapt it to the support of operations.
Cognitive level: Application.</p> |

126. Recommending policies and procedures for CA activities for command support operations and/or governmental support operations.

Must be able to analyze and compare alternatives in each area and choose those which best serve command purposes while accommodating local needs.
Cognitive level: Analysis.

127. Recommending command policy and guidance concerning mutual obligations of civil and military authorities.

Must know those obligations and ways of meeting them. Must be able to analyze and compare alternatives and choose the most suitable.
Cognitive level: Analysis.

128. Recommending, in coordination with the G3, methods of PSYOP that will be supported by the civil population and contribute to accomplishing the mission.

Must be able to assess the likely effects on the local population of PSYOP methods and recommend to the G3 the one most likely to support operations.
Cognitive level: Analysis.

129. Recommending, in coordination with the SJA, methods of ensuring that the commander's legal obligations to the local population are fulfilled.

Must be able to reconcile demands of the mission with the obligations that laws impose on the commander.
Cognitive level: Analysis.

Common KSA Required of Other Staff Officers

Coordinating Staff, Support Command

Coordinating staff members of a support command must be able to interpret the intent both of their own commander for providing CSS and of the commander of the supported command for accomplishing the mission of his command. Recommendations to their own commander must be made in light of the same considerations affecting the recommendations of coordinating staff officers of tactical commands, including convincing reasons behind the recommendations and coordination to expose different conclusions among them. In addition, they must be able to recommend to the responsible coordinating staff officers of the supported command, normally the G1 and G4, the best alternative for supporting each feasible course of action being considered by the supported command for accomplishing its mission. Again, they also must be able to use applicable common staff procedures.

Cognitive level: Evaluation.

Special Staff

Special staff officers are required to make recommendations concerning the best use of the resources available in their areas of interest. They must be prepared to defend their recommendations to the coordinating staff officer to

whom they will be made. Again, their recommendations will be based on appreciation of the courses of action considered by the tactical command and of the factors affecting the supportability of those courses of action from their perspective. They must also be prepared to recommend appropriate action if the supportability of the courses of action is in doubt. They also must be able to apply common staff procedures for presenting recommendations.

Cognitive level: Synthesis.

Function: Preparing Plans and Orders

The staff prepares and issues plans and orders to carry out the commander's decisions, ensuring coordination of all necessary details. The commander may delegate authority to staff officers to issue plans and orders without his personal approval. A single staff officer is assigned the responsibility for preparing and publishing a plan or order. Other staff officers prepare elements of the plan or order in their areas of interest.

The staff assists the commander by ensuring that subordinates carry out the commander's decision. Staff supervision relieves the commander of much detail, keeps the staff informed of the situation, and provides the staff with information needed to revise estimates and to provide progress reports to the commander as plans and orders are implemented. It is the duty of the staff to ensure that decisions reach the intended recipients, that decisions are understood, and that decisions are executed as intended by the commander. The staff must also ensure that recommendations for modifications and elaborations are initiated when circumstances demand. Supervision is accomplished through the analysis of reports, messages, and staff visits.

Common KSA Required

Coordinating staff officers must be able to assist in implementing the commander's decision by preparing plans for approval, by issuing orders in the name of the commander after he has announced his decisions, and by exercising staff supervision of subordinate commands in carrying out the commander's intent. They must know the form in which complete plans must be prepared and presented for approval, which is generally the same as the form for the orders that implement the commander's decision. They must be able to follow the subsequent course of operations to judge whether the orders in their areas of interest are being followed as the commander desires and must be prepared to repeat the decision making and implementation cycle if they are not. They must be able to organize and supervise their staff sections to use the common staff procedures that apply to preparing plans and orders and to supervising their execution.

Cognitive level: Evaluation.

Tasks

KSA and Cognitive Level

G1

130. Preparing the administrative portion of plans and orders, in coordination with the coordinating staff and with input from appropriate members of the special staff.	Must know how administrative measures support operations. Must be able to integrate administration in a feasible course of action. Cognitive level: Synthesis.
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131. Developing plans to maintain command strength through evaluating current and projected strength data and the soldier readiness posture of elements of the command.

Must be able to use the personnel and unit replacement system. Must be able to prescribe measures for maintaining soldier readiness.
Cognitive level: Analysis.

132. Supervising, in coordination with appropriate special staff officers, personnel service support operations, including personnel replacement operations that involve monitoring unit strength and following established priorities; integrating, in coordination with the G4, the replacement plan with the logistic plan to ensure that the replacements are equipped for the situation; coordinating and monitoring administrative processing, movement support, and positioning of replacement processing units; implementing plans for using personnel determined for medical reasons to be unfit for combat duty, which may include coordination with the G3 for retraining; implementing command policies concerning personnel services, such as strength accounting, casualty reporting, orders, evaluation reports, promotions, classification and reclassification, personnel assignment and utilization, and awards; morale support activities, such as use of the band; AG administrative services, health, chaplain, and legal and postal services; and essential financial and public affairs support.

Must be able to evaluate the functioning of personnel service support operations, coordinating where necessary to ensure adequate support and attention to priorities. Must know how personnel service support is intended to facilitate operations and be able to direct it to that end through staff supervision. Must be able to take corrective action when support falls short of combat requirements.

Cognitive level: Analysis.

133. Planning and supervising activities of administration of discipline, law and order. Specifically, the G1 is concerned with absence without leave, collection and disposition of stragglers, rewards and punishments, general instructions which especially concern individuals, preventive measures taken, disciplinary installations, military police support (law enforcement), military justice and courts-martial, operation of stockades, and establishment of measures for prisoner rehabilitation, control of civilians, and handling of EPW.

Must know the principles underlying the maintenance of proper discipline and law and order in military organizations. Must know the means available to apply the principles, including the various administrative methods associated with enforcing discipline, law and order. Must be able to coordinate the use of those means to ensure that command operations are not impeded by failures in these areas.

Cognitive level: Analysis.

134. Supervising all aspects of safety including the command accident prevention program.

Must be able to note significant indicators.

Cognitive level: Application.

135. Providing management over the organization and administration of the headquarters including coordinating and supervising the movement, internal arrangement, space allocation, and administrative support of the headquarters; supervising agencies that service the command, such as the American Red Cross; allocating shelter in the headquarters area for troops and the headquarters in coordination with the G3 for area organization and the G4 for provision of shelter; providing control and standardization of procedures within the headquarters. All staff officers are responsible for proper administrative activities within their own section.

Must know the needs of the various assigned and visiting elements, and be able to accommodate them within the space and facilities available. Must be able to support the efforts of the headquarters commandant. Must know the services available to the command from outside agencies, and be able to supervise their effective use. Must be able to coordinate the use of standard administrative procedures among the staff.

Cognitive level: Application.

G2

136. Supervising and coordinating the command's intelligence collection and target acquisition activities, including aerial and ground reconnaissance; IMINT program, HUMINT program (including interrogation of EPWs, civilian internees/detainees and refugees); debriefing returned captured U.S. personnel, escapees, and evacuees; exploitation of captured documents and captured materiel; SIGINT programs; EW support measures; employment of long-range reconnaissance patrols; and collection of technical intelligence. The G2 exercises supervision over the all-source analysis center.

Must know how every element of the command's means of acquiring intelligence should contribute to the effort. Must be able to coordinate the use of all those means to best effect, including ensuring that the products go to the proper agencies.

Cognitive level: Synthesis.

137. Supervising and coordinating predictions of fallout from enemy-employed nuclear weapons and coordinating chemical agent detection, biological agent sampling, and radiological surveys with the chemical officer.

Must be able to apply knowledge of the technical details to supervise proper execution of these functions.

Cognitive level: Application.

138. Exercising staff supervision over organic and attached collection management and dissemination and intelligence production elements. Must know the capabilities of each of the elements. Must be able to supervise their use to assist command operations. Cognitive level: Application.
139. Coordinating and consolidating the command's requirement for weather and terrain analysis support. Must know how to serve the commander's intent by appropriate use of the available support. Cognitive level: Application.
140. Planning, coordinating, and supervising efforts to detect, neutralize, and/or manipulate enemy intelligence activities and to protect against espionage, subversion, and sabotage. Specific responsibilities include furnishing the G3 an assessment of operational procedures, orders, plans, C-E operations instructions, and similar documents to identify friendly OPSEC vulnerabilities; coordinating countersurveillance and SIGSEC measures for OPSEC with the G3; exercising staff supervision of OPSEC support provided by organic and attached CI and SIGSEC elements; supervising the command personnel and information security programs; and exercising staff supervision of the threat management and collection management effort. Must know enemy intelligence collection capabilities. Must be able to assess the effectiveness of their use against the command. Must know and be able to supervise the effective use of the means available to the command for countering the use of those enemy capabilities. Must know how to coordinate the efforts of friendly elements applying highly technical means and skills. Must know personnel and information security requirements and must be able to implement appropriate programs. Cognitive level: Evaluation.
141. Preparing the command intelligence training plan and integrating logical intelligence, CI, OPSEC, threat, and IPB considerations into other training plans. Must know what training is required in each element of the command. Must be able to plan and supervise the execution of appropriate training. Cognitive level: Application.
142. Preparing the threat portion of scenarios to include sequence of portrayed enemy operations to support exercise activities. Must know enemy doctrine and tactics and be able to apply them to the required scenarios. Cognitive level: Application.
143. Making staff visits to and staff inspections of intelligence training activities. Must know how to assess the effectiveness of intelligence training. Cognitive level: Analysis.
144. Exercising staff supervision of MI support to the command's intelligence training. Must know MI unit capabilities and how they can be used in training. Cognitive level: Application.

145. Supervising the training of intelligence specialists who are assigned or attached to the G2 staff.

Must be able to plan effective training for a variety of intelligence tasks and to supervise the execution.
Cognitive level: Application.

146. Exercising staff supervision over the staff weather officer and the supporting engineer terrain analysis team.

Must know how to make appropriate use of the available services.
Cognitive level: Application.

147. Preparing the intelligence portion of the command SOP.

Must know the appropriate subjects for inclusion. Must be able to complete required coordination to avoid unnecessarily burdening the staff or subordinate commands.
Cognitive level: Application.

148. Preparing the intelligence and CI portions of plans and orders, reports, summaries, and studies.

Must know how the appropriate use of intelligence and CI means will contribute to successful operations.
Cognitive level: Synthesis.

149. Exercising staff supervision over the special security office, including providing SCI products to fulfill the commander's PIR, and administering the SCI billet and personnel access programs.

Must know the regulations governing the custody and use of SCI. Must be able to establish and supervise appropriate programs.
Cognitive level: Application.

G3

150. Preparing, authenticating, and publishing the overall command SOP with contributions from other staff sections.

Must know how to coordinate the inclusion of appropriate subjects.
Cognitive level: Application.

151. Preparing, coordinating, authenticating, and publishing operation plans and orders including tactical movement orders.

Must be able to translate command guidance and/or decisions into plans and orders, faithfully reflecting the commander's intentions.
Cognitive level: Evaluation.

152. Using resources to accomplish both maneuver and support, including resources used for purposes of deception.

Must be able to interpret command intent in the allocation and use of resources for conducting operations.
Cognitive level: Synthesis

153. Coordinating all aspects of maneuver with support (for example, Air Force, Navy, Marine Corps), both forward and in the rear.

Must be able to use the means available to control operations, for example, the TOC, to effect required coordination in carrying out command intent.
Cognitive level: Application.

154. Disseminating nuclear STRIKE-WARN messages as required.

Must be able to set up and supervise an appropriate communications system.
Cognitive level: Application.

155. Designating areas for bivouacking, quartering, and staging units.

Must know the requirements of all assigned and attached elements.
Cognitive level: Application.

156. Exercising staff supervision over all EW activities (including planning and supervising), in coordination with the G2, in support of tactical operations; preparing and the coordinating the EW annex to plans and orders; supervising and coordinating, with the G2 and the C-E officer, the evaluation of MIJI reports; exercising staff supervision over the EW section; and establishing priority targets for ECM and publishing control measures.

Must know the technical details of employing EW means, the benefits to be gained from friendly use, and the harm that might result from enemy use. Must be able to judge effect of EW on command operations and to assess proposed methods of counter-ing adverse effects during operations.

Cognitive level: Synthesis.

157. Exercising staff supervision over PSYOP activities, including planning and supervising all PSYOP activities in support of tactical operations; preparing and coordinating the PSYOP annex to plans and orders; and evaluating, in coordination with the G2 and the G5, enemy PSYOP efforts and the effectiveness of friendly PSYOP on target groups.

Must know the principles applying to conduct of PSYOP activities, including their expected contribution. Must be able to plan and supervise the execution of PSYOP in support of operations. Must be able to assess the effects on operations of friendly and hostile PSYOP and to counter adverse effects.

Cognitive level: Synthesis.

158. Exercising staff supervision over OPSEC activities, including supervising and coordinating analysis of the OPSEC posture of the command with the G2, the C-E officer, and other staff officers; coordinating evaluation of the enemy intelligence threat with the G2; planning, implementing, and evaluating countersurveillance operations and countermeasures; coordinating, with the PM and the G2 respectively, the implementation of physical security and information security measures; coordinating with the C-E officer the implementation of SIGSEC measures; and supervising and coordinating the conduct of OPSEC surveys with

Must be able to evaluate the OPSEC posture of the command in light of the commander's intent and willingness to accept risk. Must know the available countermeasures to threats and be able to coordinate and supervise their effective use, which involves familiarity with details of the technical countermeasures.

the G2 to evaluate the effectiveness of countersurveillance and countermeasures; preparing the OPSEC annex to plans and orders; and supervising and coordinating the activities of the OPSEC staff elements.

Cognitive level: Synthesis.

159. Exercising staff supervision over deception activities, including preparing the deception annex to plans and orders and supervising coordinating deception measures.

Must know the principles underlying the employment of deception and be able to apply them and supervise implementation in operations.

Cognitive level: Synthesis.

160. Exercising staff supervision over RAP through the integration of RACO and ADC, including planning and coordinating RACO and ADC activities with the G2, the G4, the PM, the engineer officer, other staff officers, and host nation forces as appropriate; ensuring that RAP plans of base commanders have been reviewed for their compatibility with the primary mission of the command and their tactical adequacy; organizing ADC control and assessment teams as required; preparing the RAP annex to plans and orders; and supervising the rear area operations center (RAOC) (corps level).

Must be able to assess the specific needs for RAP, including the possible engagement in RACO and ADC. Must be able to reconcile the application of resources to RAP with the demands for resources with which to engage the enemy elsewhere. Must be able to coordinate plans for RAP and to supervise their execution without unduly jeopardizing other command operations.

Cognitive level: Synthesis.

161. Exercising staff supervision, through the G3 Air of the AME.

Must know the general requirements of all users of air space and the contribution each makes to operations. Must be able to supervise the organization and operation of the AME to observe appropriate priorities.

Cognitive level: Analysis.

162. Exercising staff supervision over command organization, including organizing and equipping units; estimating the numbers and types of units to be organized; ensuring that priorities are followed for phasing in or replacing personnel and equipment in the units; assigning, attaching, and detaching units, detachments, or teams; receiving units, detachments, or teams and

Must be able to translate command guidance for the conduct of operations into requirements for the capabilities represented by numbers of various types of units that could be assigned or attached to the command. Must know the procedures for conducting the activities involved in organizing and training the command. Must be able to integrate available civilian resources.

orienting, training, and reorganizing them as necessary; force accounting (acting on activation, inactivation, establishment, discontinuance, and reorganization of units); evaluating the use and requirement of military and civilian personnel with regard to organizational structure, functions, and workload to ensure their proper use; and allocating manpower resources to subordinate commands.

Cognitive level: Evaluation.

163. Exercising staff supervision over command training activities including preparing and carrying out training programs, directives, and orders; planning and conducting field exercises; allocating training resources, including ammunition for training, ranges, facilities, and training aids and devices; organizing and conducting internal schools and obtaining and allocating quotas for external schools; planning the budget for training and monitoring use of training funds to support training programs; and scheduling, in coordination with the G4, new equipment training teams to support arrival of new materiel.

Must be able to coordinate the preparation of an integrated command training program and supervise its execution. Must be able to assess the state of training at the outset of the program and progress as it continues.

Cognitive level: Synthesis.

G4

164. Preparing logistic plans and orders and reports.

Must know how logistic support will contribute to command operations. Must be able to translate the concept of operations into requirements for logistic support and to allocate the logistic assets of the command to provide adequate support.

Cognitive level: Evaluation.

165. Preparing, authenticating, and distributing the administrative/logistic order and coordinating preparation of the service support portions of the operation plan or order.

Must know how to integrate plans for logistic support into directives for the conduct of command operations.

Cognitive level: Application.

166. Serving as the coordinating officer for logistic budget planning and monitoring expenditure of funds required to support materiel programs.

Must know how to estimate funding requirements in his area of interest. Must be able to relate expenditures to continuing availability of funds.
Cognitive level: Analysis.

167. Planning and supervising a logistic training plan.

Must be able to assess the state of training of logistic units of the command and prescribe and supervise the execution of an appropriate training program.
Cognitive level: Analysis.

168. Exercising staff supervision over supply activities, including monitoring the requisition, acquisition, storage, and distribution of supplies and equipment and the maintenance of materiel records; ensuring that accountability and security of supplies and equipment are adequate in coordination with the PM; supervising the distribution of weapons, munitions (to include basic load), and equipment according to priorities established by the commander; supervising the distribution of the CSR of ammunition and its accountability to include publication of the CSR in the operation order; supervising the requisition, receipt, and storage of nuclear and chemical weapons and associated supplies; collecting and distributing excess, surplus, and salvage supplies and equipment (after coordinating with the G2, the G4 is responsible for the disposition of captured enemy supplies and equipment); coordinating the fielding of automated logistics systems; processing property accountability adjustment documents; and allocating ground fuels to subordinate units.

Must know the Army system for the provision of supplies and equipment. Must be able to coordinate the operation of the system to provide the command continuously with authorized supplies and equipment. Must know the procedures for accounting for supplies and equipment and be able to supervise the accounting by all elements of the command. Must be able to coordinate allocation and distribution of scarce or critical items in established priorities.

Cognitive level: Analysis.

169. Exercising staff supervision over maintenance activities, including monitoring and analyzing equipment readiness status and supervising maintenance effort according to priorities established by the commander.

Must know the capabilities of tactical and CSS units to maintain equipment of the command. Must be able to coordinate and supervise effective use of the capabilities in support of operations.

Cognitive level: Application.

170. Planning and coordinating transportation of personnel, equipment, and supplies by all modes of transportation.

Must know the transportation capabilities of the command. Must be able to coordinate and supervise the effective use of the capabilities in support of operations.
Cognitive level: Analysis.

171. Preparing movement orders for administrative troop movements.

Must be able to coordinate movements.
Cognitive level: Application.

172. Exercising staff supervision over logistic services including planning and coordinating the construction of facilities and installations, except fortifications and signal; acquiring, allocating, administering, and disposing of real estate, to include billets and shelters and real property control; and supervising food service, fire protection, personal services, bath and laundry services, clothing exchange, and graves registration.

Must know the capabilities of CSS units of the command to provide services in support of operations in each of the areas. Must be able to coordinate and supervise their effective use.

Cognitive level: Application.

173. Supervising administration of the nuclear and chemical accident and incident program and NBC decontamination operations.

Must know the prescribed procedures for the program and the operations. Must be able to supervise their implementation.
Cognitive level: Application.

G5

174. Preparing plans for CA activities for command support operations and/or governmental support operations.

Must know how the operations can be supported by appropriate activities. Must be able to organize and coordinate plans for the activities that are integrated with command plans.

Cognitive level: Analysis.

175. Preparing the portions of operation and administrative/logistic plans and orders concerning CA activities and civil-military cooperation.

Must be able to integrate CA activities and arrangements for civil-military cooperation into plans and orders of the command.

Cognitive level: Application.

176. Exercising staff supervision over CA units that are assigned, attached, or under operational control of the command and of CA activities of other units of the command.

Must know the capabilities of the units for contributing to command goals. Must be able to coordinate and supervise the CA activities of the command to that end.

Cognitive level: Analysis.

177. Supervising CA functions of the command in the fields of government, economics, public facilities, and special functions, such as displaced persons, refugees, evacuees; arts, monuments, and archives; cultural affairs; and civil information.

Must know the national policies in regard to civil-military interactions in each of the fields. Must be able to coordinate and supervise CA activities in accordance with the policies and those of the commander.

Cognitive level: Synthesis.

178. Establishing and maintaining close and continuing relations with other U.S. government agencies that may have CA responsibilities in an area of operations, such as the Department of State, U.S. Embassy, Agency for International Development, Department of Agriculture, U.S. Information Agency, Department of Labor; religious, welfare, and relief organizations; and foreign officials.

Must know which U.S. agencies and foreign officials are acting in the area of operations. Must be able to judge the mutual effects of their activities and those of the command. Must be able to serve as an effective representative of the commander in interactions with the agencies and foreign officials.

Cognitive level: Synthesis.

179. Coordinating OPSEC measures and MI aspects of CA activities with the G2.

Must be able to assess the OPSEC and MI implications of CA activities.

Cognitive level: Analysis.

180. Coordinating civil support for tactical and CSS operations to prevent civilian interference with military operations.

Must be able to assess the impact of civil support on military operations, to recognize potential interference, and to take steps to prevent it.

Cognitive level: Analysis.

181. Coordinating military support of civil defense in the area of operations.

Must be able to assess the requirements of civil defense for military support and coordinate the support that the command extends.

Cognitive level: Application.

182. Coordinating civil support of RAP in the area of operations.

Must be able to assess the contribution that civil resources could make to RAP and coordinate with the G3 to use those resources effectively.

Cognitive level: Application.

APPENDIX B

OPPORTUNITIES FOR USING COMPUTERS IN PERFORMING OR TEACHING STAFF TASKS

The results of analyzing the staff tasks identified in Appendix B for opportunities to support tasks with automation and to use computers in teaching the KSA needed to perform the tasks are reported in this appendix.

Conceptual types of automation were developed by the project team for the purpose of identifying the opportunities reported here. The conceptual categories of ACL defined in the main report of this study were also devised by the team for use in completing both Tasks A and B.

Of the 182 tasks, 148 of them were considered to be supportable by one or more types of automation. Teaching by ACL from one or more of the conceptual categories was considered suitable for KSA associated with all the tasks. The applications of computers in the category of administration were applicable to teaching the KSA associated with every task, and that category was consequently not used in indicating the categories that were appropriate to each task. It should be noted that writing software for all conceivable ACL has not been carried out, which emphasizes the conceptual and subjective nature of the categories. The categories are compatible with definitions of ACL that are widely accepted among those working in this field.

Listed below are the staff tasks identified from Field Manual 101-5 (FM 101-5)(Hq. Dept. of the Army, 1984) in Appendix B. Symbols are listed with each task denoting the suitability of the task for one or more types of automation and of teaching its associated KSA through one or more of the ACL to learning that were defined in the main report of the project. The symbols used here are as follows:

Types of Automation

- A = None. The task does not lend itself to automation.
- B = Electronic Mail System. The task involves moving information among individuals and headquarters.
- C = Database. The task involves recording information that could be included in a computer-stored database for easy retrieval and sorting for analysis.
- D = Word Processing. The task involves preparing various documents, often in a standard format that could be stored in a computer and that could be quickly printed by a desktop publishing system.
- E = Computation. The task includes analytical processing of data, which could involve using computers for quantitative calculations or computational aids to decisionmaking.

Categories of Applications of Computers to Learning

- 1 = Administration. This application is for performing administrative functions, which might include record keeping, word processing, database management, course registration, and preparation and presentation of instructional materials. (Applies to all tasks.)
- 2 = Testing. This computer-managed instruction function involves measurement via computerized tests of student retention of previously learned KSA.
- 3 = Computer-Assisted Instruction (CAI). This application uses computer courseware for mastery learning of newly introduced KSA needed for basic task elements, for example, performing the administrative functions required by the tasks.
- 4 = Simulations for Individual Training (SIT). This training via computer requires application and analysis of previously learned material. These instructional simulations model some aspect of reality with sufficient fidelity to present the student with situations requiring him to apply previously acquired KSA.
- 5 = Intelligent Tutoring System (ITS). An ITS, which uses artificial intelligence, serves as a tool for learning new KSA and applying already acquired KSA through a continuous interaction with a program that diagnoses student misperceptions and clues correct action based on an expert knowledge base and a student model.

- 6 = Gaming. Concepts are applied and practiced through a computer game, generally of less fidelity than a simulation, that models a relevant subject area and requires exercising the concepts against a real or virtual opponent.
- 7 = Simulation for Collective Training (SCT). KSA required of a team are practiced by a group in a simulation designed to present evolving situations that demand the application of the team KSA.

Task

Computer Opportunities

Providing Information

G1

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|---|---------------|
| 1. Collecting, analyzing, and presenting command data indicating authorized, assigned, and attached strength with which to evaluate the personnel situation in relation to the commander's course of action and to allocate resources. Sources of data include daily personnel status reports, gain and loss estimates, health services reports, provost marshal reports, and critical MOS shortage reports. Monitoring, collecting, and analyzing data affecting soldier readiness, such as morale and organizational climate, commitment, and cohesion. | B, C, D, 3, 4 |
| 2. Advising the commander and the staff about individual replacements and the operation of the replacement system. | B, C, 2, 3 |
| 3. Collecting and analyzing data on matters of morale or discipline; developing assessments, both positive and negative; and providing information to the commander, such as the frequency of absence without leave, desertion, court-martial offenses, arrests, and large numbers of requests for transfer. | B, C, D, 3, 4 |
| 4. Collecting data and advising on the miscellaneous areas for which the G1 is responsible. | B, C, D, 3 |

G2

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|---|---------------|
| 5. Processing information into intelligence, including collecting, recording, integrating, correlating, evaluating, and interpreting information, and disseminating intelligence. | B, C, D, 3, 5 |
| 6. Identifying requirements for reconnaissance, surveillance, and target acquisition. | C, 2, 4 |

7. Requesting, receiving, and processing information and intelligence from other intelligence sources to include adjacent units, higher echelons, and other services. B, C, D, 4
8. Conducting intelligence preparation of the battlefield (IPB) and providing IPB products to the staff and subordinate commands. This includes gaining a detailed knowledge of the enemy, terrain, and weather. The IPB process incorporates threat evaluation, determination and evaluation of areas of interest and areas of influence, terrain analysis, weather analysis, and threat integration. B, C, D, E, 2, 3, 4, 5
9. Identifying enemy multidisciplinary (human intelligence [HUMINT], signal intelligence [SIGINT], and imagery intelligence [IMINT]) intelligence collection capabilities and efforts targeted against the unit. C, E, 2, 4
10. Assisting the G3 in planning deception operations by providing assessments of enemy means of processing information to include what the enemy considers to be indicators, which enemy level of command would take action on deception operations, the personalities of the intelligence officers and commander, and the enemy reactions to the deception story for use in future operations. C, 4, 6
11. Collecting and maintaining current information concerning personnel and information security. C, 2, 3
12. Collecting and analyzing information for threat and collection management, and for maintaining a current estimate of the enemy situation. C, D, 2, 5
13. Reviewing subordinate unit plans, orders, and SOPs for collection management and surveillance operations. D, 3, 4
14. Evaluating, with the chemical officer, the vulnerability of the command's disposition to enemy-employed nuclear and chemical weapons. E, 2, 3, 5

15. Determining intelligence training requirements for the command. C, 4, 5
16. Collecting and analyzing information with which to assist the G3 in targeting, planning, executing, and assessing results of electronic warfare (EW) weapons and employment. C, E, 2, 4
17. Providing input to appropriate staff sections concerning unconventional warfare and civil-military operations, enemy capabilities for employment of NBC weapons, criteria for judging when enemy targets have been defeated using NBC weapons and the anticipated enemy reaction, and denial operations and obstacles. C, D, 3, 4, 5, 6
18. Determining map requirements. C, 2, 3
19. Collecting and analyzing information for preparing the intelligence portion of the command SOP. C, D, 2, 3
20. Collecting and analyzing information for preparing the intelligence and CI portions of plans and orders, reports, summaries, and studies. C, D, E, 2, 3, 5
21. Collecting and analyzing information concerning the command's need of sensitive compartmented intelligence (SCI). A, 3
22. Providing intelligence information and threat analysis for RAP (rear area combat operations [RACO] and area damage control [ADC]) to the G3. C, 4

G3

23. Collecting and analyzing information necessary for maintaining a current operation estimate of the situation in coordination with other staff officers. C, D, 4, 5
24. Gathering contributions from other staff sections for the overall command SOP. B, C, D, 2, 3
25. Collecting information for preparing operations plans and orders; reviewing plans and orders of subordinate units. C, D, 3, 4

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| 26. Maintaining current information regarding resources of the command. | C, 3 |
| 27. Maintaining current information for inclusion in operational records and report. | B, C, D, 3 |
| 28. Collecting and analyzing information pertinent to conducting EW activities. | C, 2, 3, 4 |
| 29. Collecting and analyzing information pertinent to conducting psychological operations (PSYOP). | C, 5 |
| 30. Collecting and analyzing information pertinent to operations security (OPSEC) of the command. | E, 4 |
| 31. Determining essential elements of friendly information, including nuclear vulnerability assessment and, in coordination with the chemical officer, maintaining the radiation exposure status of elements of the command. | C, E, 2, 3, 4 |
| 32. Collecting and analyzing information pertinent to countersurveillance activities and countermeasures. | C, E, 3, 4 |
| 33. Collecting and analyzing information pertinent to deception activities of the command. | C, E, 4, 5 |
| 34. Receiving input from the G4 and other staff officers concerning ADC plans; ensuring that ADC plans of subordinate units have been reviewed to ensure their adequacy and also to ensure their compatibility with command ADC priorities. | E, 4 |
| 35. Obtaining input from all staff sections concerning the impact of RACO and ADC activities upon their staff responsibilities. | E, 6 |
| 36. Developing and maintaining the troop list, including review and revision, to ensure the assignment of the numbers and types of units needed to support and to accomplish the mission. | C, D, E, 2, 3, 4, 6 |

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| 37. Collecting and analyzing force development information, including planned or programmed force structure, manpower utilization and requirements, ceilings, and guidance. Gathering information through manpower and equipment surveys for manpower reports (compiling, recording, and reporting data for information, planning and programming, allocation, and justification). | C, D, E, 2, 3, 4 |
| 38. Identifying training requirements based on assigned missions and the training status of units of the command. | C, E, 5 |
| 39. Compiling training records and reports. | B, C, D, 2, 3 |
| 40. Maintaining unit readiness status information for each unit in the command. | B, C, D, 2, 3 |
| 41. Determining, in coordination with the G4, training requirements engendered by the introduction of new material. | A, 3 |
| G4 | |
| 42. Determining supply requirements. | C, E, 2, 3, 4 |
| 43. Determining the Controlled Supply Rate (CSR) for ammunition and the current status of other critical supplies. | C, E, 3, 4 |
| 44. Collecting information as to excess, surplus, salvage, and captured supplies and equipment. | C, 3 |
| 45. Monitoring and analyzing equipment readiness status. | C, D, E, 3 |
| 46. Determining maintenance work load requirements; assessing the status of maintenance organizations, personnel, skills, training, tools, test equipment, and facilities. | 3, 4 |
| 47. Monitoring the availability of operational readiness float equipment. | C, 3 |
| 48. Monitoring the status of all modes of transportation available to the command. | C, 3 |

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| 49. Determining requirements for construction of facilities and installations, excepting fortifications and signal. | C, E, 3, 4 |
| 50. Determining requirements for real estate, including billets and shelter. | C, 3 |
| 51. Determining the adequacy of logistic support. | E, 3, 4 |
| 52. Determining requirements for additional logistic support units. | E, 3, 4 |
| 53. Identifying requirements for use of local civilians, enemy prisoners of war (EPW), and civilian internees/detainees in logistic support operations. | C, E, 3, 4 |
| 54. Collecting and analyzing information for preparing logistic estimates, reports, orders, and plans. | B, C, D, E, 2, 3, 4, 6 |
| 55. Determining logistic training requirements. | C, 3 |
| 56. Providing staff input to the G3 concerning RACO and ADC considerations involving CSS units in the rear area and the priority required for continued logistic support to forward combat units. | C, E, 4, 6 |
| G5 | |
| 57. Collecting and analyzing information concerning civil-military cooperation, to include (in coordination with the G3) the impact of PSYOP on the civilian population. | C, E, 4, 5 |
| 58. Collecting and analyzing information concerning CA activities for command support operations and/or governmental support operations. | C, E, 2, 4, 5 |
| 59. Collecting and analyzing information for preparing current estimates and conducting surveys and studies for CA activities. | C, D, E, 2, 3, 4 |

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| 60. Collecting and analyzing information for preparing the portions of operation and administrative/logistic plans and orders concerning CA activities and civil-military cooperation. | C, D, E, 2, 3, 4 |
| 61. Determining requirements for CA units and personnel to accomplish CA activities of the command. | E, 2, 4, 6 |
| 62. Collecting and analyzing information in the fields of government, economics, public facilities, and special functions, such as displaced persons, refugees, evacuees; arts, monuments, and archives; cultural affairs; and civil information. | C, E, 4, 5 |
| 63. Providing information to the G2 concerning OPSEC countermeasures and MI aspects of CA activities. | B, 4 |
| 64. Serving as the principal advisor to the commander and staff on matters about civil population, local government, institutions, and economy. | C, E, 3, 4 |
| 65. Determining availability of local personnel, materiel, service resources, and economic resources. | C, E, 3, 4 |
| 66. Determining requirements of military resources for population and resource control programs. | E, 4 |
| 67. Observing and analyzing, with the public affairs officer, trends in public opinion. | C, E, 4 |
| 68. Advising on the impact of friendly nuclear and chemical munitions employment to include preparing the collateral damage preclusion overlay and on the impact of enemy NBC munitions employment on the civilian population. | C, D, E, 2, 3, 4 |
| 69. Providing technical advice and assistance in the reorientation of enemy defectors, EPWs, and all categories of displaced civilians (displaced persons, refugees, and evacuees). | C, E, 5 |
| 70. Advising and assisting local civilian officials in the creation and maintenance of public order and safety. | A, 4, 5 |

71. Advising and assisting with the staff judge advocate to ensure that the commander's legal obligations to the local population are fulfilled. A, 4, 5

Making Estimates

G1

72. Preparing and maintaining estimates of the current and projected strength and soldier readiness of each unit of the command, including conclusions regarding their adequacy for accomplishing the mission and alternate courses of action for dealing with possible deficiencies. C, D, E, 3, 4

73. Maintaining current estimates for personnel replacement requirements, including requirements for individual replacements and projected critical MOS and skills based on estimated casualties, nonbattle losses, and foreseeable administrative losses, and alternatives for dealing with failures of the replacement system. C, D, E, 3, 4

74. Maintaining current estimate of personnel services capabilities of the command, including personnel administration, morale support, health, legal, chaplain, postal, and essential financial support; public affairs and recreation (rest and recuperation) and leave, together with alternative measures for dealing with shortcomings. C, D, E, 3, 4

75. Maintaining current estimates of the state of the command in regard to discipline, law and order, civilian personnel, and safety and accident prevention, again including alternative policies. C, D, E, 4, 5

76. Maintaining a current estimate of command capability to provide administrative support to other personnel (EPW, augmentees [non-U.S. Forces, Third Country Nationals, civilian internees, and others]) to include support of outside agencies, for example, the American Red Cross, together with appropriate alternative policies. C, D, E, 3, 4

G2

77. Maintaining a current intelligence estimate of the situation in coordination with other staff officers and with agencies charged with collecting intelligence. This process begins with IPB before combat and requires building up an increasingly detailed picture of enemy capabilities and intentions, with conclusions regarding probable enemy courses of action and their likely effects, and, if appropriate, alternatives for minimizing their adverse impact on the accomplishment of the mission.

C, D, E, 4, 5, 6, 7

78. Estimating the command's vulnerability to hostile intelligence in general and in support of OPSEC, with alternative measures for reducing it if appropriate.

D, 4, 5

79. Preparing staff estimates to support G3 in deception operations, EW, and RAP, including appropriate alternative courses of action.

C, D, E, 3, 4, 6

G3

80. Maintaining a current operation estimate of the situation in coordination with other staff officers, including tactical deception operations, EW, PSYOP, OPSEC, and RAP. This task involves continuously formulating analyzing, and comparing alternate feasible courses of action as changes in the situation occur and thus being prepared to recommend a course of action at short notice if required. It also involves continuous monitoring of operations to determine whether resources for both maneuver and support are being employed to best effect, or, if necessary, to consider recommending changes in task organization and in missions assigned to subordinate units.

C, D, E, 3, 4, 5, 6, 7

81. Formulating, analyzing, and comparing alternate courses of action for integrating schemes of tactical maneuver and/or

D, E, 3, 6, 7

dispositions and fires, including nuclear and chemical fires and including, as appropriate, alternative plans for requesting nuclear and chemical release, preparing predictions of fallout from friendly employment of nuclear weapons, and preparing predictions of downwind hazard from friendly chemical fires.

82. Maintaining the radiation exposure status of units of the command. C, D, 3

G4

83. Maintaining a current logistic estimate of the situation in coordination with other staff officers and the commander and staff of the support command and/or other CSS agencies. C, D, E, 3, 4, 6

84. Monitoring the performance of CSS to determine its adequacy, and prepare alternatives for dealing with shortfalls when appropriate. In particular, close coordination with the G3 is involved for anticipating CSS requirements for future operations. C, E, 3, 4, 6

G5

85. Maintaining a current CMO estimate in coordination with other staff officers and local civilian government and agencies, including formulating, analyzing, and comparing alternate ways of dealing with anticipated difficulties. C, D, E, 3, 4, 6

Making Recommendations

86. Recommending policies and procedures to eliminate problems and deficiencies in soldier readiness and to enhance morale. A, 5, 6

87. Preparing and recommending (consistently with the G3 priorities) policies to govern assignment of replacement personnel, including small units, and weapon system critical MOS management. C, 4

88. Recommending (in coordination with special staff officers with specific knowledge in each area) policies as required A, 4

concerning personnel services morale support activities, administrative AG activities, health, chaplain, legal, and postal services and essential financial and public affairs support.

89. Recommending recreation and leave policies. A, 3

90. Recommending appropriate action as required concerning matters of discipline. A, 4

91. Recommending the command safety and accident prevention program. A, 3

92. Recommending manpower allocation within the headquarters, especially in the use of personnel authorized in bulk. C, 3

93. Recommending policies as required in the miscellaneous areas for which the G1 is responsible. A, 3

G2

94. Recommending priority intelligence requirements (PIR) and information requirements (IR). C, D, 3, 4, 6

95. Recommending unit tasking for carrying out reconnaissance, surveillance, and target acquisition missions. A, 4, 6

96. Recommending, as a result of the IPB process, the command's area of interest and the subordinate commands' areas of influence. A, 4

97. Recommending targets to the FSCoord. C, 4, 6

98. Recommending a censorship policy if required. A, 5

99. Recommending to the G3 proposed areas of operations. C, E, 4, 6

100. Recommending priorities for the command map program (acquisition, production, reproduction, and distribution). C, 3

101. Recommending the employment of MI units. A, 4

102. Recommending, in coordination with members of the coordinating and special staffs, priorities for allocating critical resources of the command, including time, personnel, supplies, and equipment, such as (list is not inclusive) ammunition basic loads, nuclear and chemical ammunition, required supply rate of ammunition, the CSR of ammunition for subordinate units, the requirement for unit replacements, and electronic frequencies within limitations imposed by control measures, for example, CEOI and all other means used to control use of frequencies. C, E, 3, 4, 6
103. Recommending task organization and assignment of missions to subordinate elements of the command. A, 4, 6
104. Recommending integrated schemes of tactical maneuver and/or, with the FSCoord and chemical officer, dispositions and fires, including nuclear and chemical fires. C, 3, 4, 5, 6, 7
105. Recommending boundaries and other control measures. A, 3, 4
106. Recommending the general location of command posts. A, 3, 4
107. Recommending, in coordination with the chemical officer, troop safety criteria and the radiation exposure guide, and the MOPP. C, 2, 3, 4, 6
108. Recommending the deception story in coordination with the G2. A, 4, 6
109. Recommending tactical areas of responsibility and command for RACO. A, 3, 4
110. Recommending the composition and size of RAP tactical forces. A, 3, 4, 6
111. Recommending, in coordination with the FSCoord, the prescribed nuclear load and the prescribed nuclear stockage (PNS) for all assigned and attached nuclear-capable units. C, D, 3, 4

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| 112. Recommending, in coordination with the chemical officer and the FSCoord, the number of chemical weapons by type to be carried by assigned and attached delivery units. | C, D, 3, 4 |
| 113. Recommending priorities for phasing in or replacing personnel and equipment in the units of the command. | C, 4, 6 |
| 114. Recommending force development actions, such as the planned or programmed force. | C, 4, 6 |
| 115. Recommending manpower utilization and allocations to subordinate commands within established ceilings and guidance. | C, 4 |
| 116. Developing and recommending revisions to unit force data documenting the command organization and authorizations of personnel and equipment. | C, D, 2, 3, 4 |
| 117. Recommending the command training program, including the budget. | C, D, 3, 4 |

G4

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| 118. Recommending the prescribed load, that quantity of combat essential supplies and spare parts other than ammunition and the class IX prescribed load list, nuclear and chemical. | C, D, 3, 4 |
| 119. Recommending, in coordination with the G3, maintenance priorities. | A, 4 |
| 120. Recommending, in coordination with the PM and the transportation officer, procedures for controlling transportation movements, both surface and air. | A, 4 |
| 121. Recommending construction projects except fortifications and signal facilities. | C, 3, 4 |
| 122. Recommending, in coordination with appropriate members of the staff, policies as required for real estate management and control, food service, fire protection, personal services (bath and laundry services, clothing exchange), and graves registration. | C, 3 |

123. Recommending employment of logistic support units, including the establishment of priorities. A, 4
124. Recommending, in coordination with the G3, the general location of division support areas and the movement of logistic support units. C, 4, 6
125. Recommending to the G3 the MSR. A, 4
- G5
126. Recommending policies and procedures for CA activities for command support operations and/or governmental support operations. A, 4
127. Recommending command policy and guidance concerning mutual obligations of civil and military authorities. C, 4
128. Recommending, in coordination with the G3, methods of PSYOP that will be supportive of command missions with the civil population. A, 4
129. Recommending, in coordination with the SJA, methods of ensuring that the commander's legal obligations to the local population are fulfilled. C, 4, 5

Preparing Plans and Orders

G1

130. Preparing the administrative portion of plans and orders, in coordination with the coordinating staff and with input from appropriate members of the special staff. C, D, 2, 3, 4
131. Developing plans to maintain command strength through evaluating current and projected strength data and the soldier readiness posture of elements of the command. C, 4
132. Supervising, in coordination with appropriate special staff officers, personnel service support operations, including personnel replacement operations, which involve monitoring unit strength C, 2, 3, 4

and following established priorities; integrating, in coordination with the G4, the replacement plan with the logistic plan to ensure that replacements are equipped for the combat situation; coordinating and monitoring administrative processing, movement support, and positioning of replacement processing units; implementing plans for using personnel determined for medical reasons to be unfit for combat duty, which may include coordinating with the G3 for retraining; implementing command policies concerning personnel services, such as strength accounting, casualty reporting, orders, evaluation reports, promotions, classification and reclassification, personnel assignment and utilization, and awards; morale support activities such as use of the band, AG administrative services, health, chaplain, legal, and postal services and essential financial and public affairs support.

133. Planning and supervising activities of administration of discipline, law, and order. Specifically, the G1 is concerned with absence without leave, collection and disposition of stragglers, rewards and punishments, general instructions which especially concern individuals, preventive measures taken, disciplinary installations, military police support (law enforcement), military justice and courts-martial, operation of stockades, and establishment of measures for prisoner rehabilitation, control of civilians, and handling of EPW.

C, 3, 4

134. Supervising all aspects of safety, including the command accident prevention program.

C, 3

135. Providing management over the organization and administration of the headquarters, including coordinating and supervising the movement, internal arrangement, space allocation, and administrative support of the headquarters; supervising agencies that service the command, such as the American Red Cross; allocating shelter in the headquarters area for troops and the headquarters in coordination with the

C, 3, 4

G3 for area organization and the G4 for provision of shelter; providing control and standardization of procedures within the headquarters. All staff officers are responsible for proper administrative activities within their own section.

G2

136. Supervising and coordinating the command's intelligence collection and target acquisition activities, including aerial and ground reconnaissance; IMINT program, HUMINT program, including interrogation of EPWs, civilian internees/detainees, and refugees; debriefing returned captured U.S. personnel, escapees and evaders; exploitation of captured documents and captured materiel; SIGINT programs; EW support measures; employment of long-range reconnaissance patrols; and collection of technical intelligence. The G2 exercises supervision over the all-source analysis center.

C, 3, 4

137. Supervising and coordinating predictions of fallout from enemy-employed nuclear weapons and coordinating chemical agent detection, biological agent sampling, and radiological surveys with the chemical officer.

C, 3, 4

138. Exercising staff supervision over organic and attached collection management and dissemination and intelligence production elements.

C, 3, 4

139. Coordinating and consolidate the command's requirement for weather and terrain analysis support.

C, 3, 4

140. Planning, coordinating, and supervising efforts to detect, neutralize, and/or manipulate enemy intelligence activities, and to protect against espionage, subversion, and sabotage. Specific responsibilities include furnishing the G3 an assessment of operational procedures, orders, plans, C-E operations instructions, and similar documents to identify friendly OPSEC

C, E, 3, 4

vulnerabilities; coordinating counter-surveillance and SIGSEC measures for OPSEC with the G3; exercising staff supervision of OPSEC support provided by organic and attached CI and SIGSEC elements; supervising the command personnel and information security programs; exercising staff supervision of the threat management and collection management effort.

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| 141. Preparing the command intelligence training plan and integrating logical intelligence, CI, OPSEC, threat, and IPB considerations into other training plans. | C, D, 3, 4 |
| 142. Preparing the threat portion of scenarios to include sequence of portrayed enemy operations to support exercise activities. | C, D, 4, 6 |
| 143. Making staff visits to and staff inspections of intelligence training activities. | A, 3 |
| 144. Exercising staff supervision of MI support to the command's intelligence training. | A, 3 |
| 145. Supervising the training of intelligence specialists who are assigned or attached to the G2 staff. | A, 3 |
| 146. Exercising staff supervision over the staff weather officer and the supporting engineer terrain analysis team. | A, 3 |
| 147. Preparing the intelligence portion of the command SOP. | C, D, 3 |
| 148. Preparing the intelligence and CI portions of plans and orders, reports, summaries, and studies. | C, D, 3, 4, 6 |
| 149. Exercising staff supervision over the special security office, including providing SCI products to fulfill the commander's PIR and administering the SCI billet and personnel assess programs. | C, 3 |

150. Preparing, authenticating, and publishing the overall command SOP with contributions from other staff officers. C, D, 3
151. Preparing, coordinating, authenticating, and publishing operation plans and orders, including tactical movement orders. C, D, E, 3, 4, 6
152. Using resources to accomplish both maneuver and support, including resources used for purposes of deception. A, 4, 5, 6, 7
153. Coordinating all aspects of maneuver with support (for example, Air Force, Navy, Marine Corps), both forward and in the rear. A, 4, 5, 6, 7
154. Disseminating nuclear STRIKEWARN messages as required. D, 3
155. Designating areas for bivouacking, quartering, and staging units. C, 3
156. Exercising staff supervision over EW activities, including planning and supervising, in coordination with the G2, all EW activities in support of tactical operations; preparing and coordinating the EW annex to plans and orders; supervising and coordinating, with the G2 and the C-E officer, the evaluation of MIJI reports; exercising staff supervision over the EW section; establishing priority targets for ECM, and publishing control measures. C, D, E, 3, 4, 6
157. Exercising staff supervision over PSYOP activities, including planning and supervising all PSYOP activities in support of tactical operations; preparing and coordinating the PSYOP annex to plans and orders; evaluating, in coordination with the G2 and the G5, enemy PSYOP efforts and the effectiveness of friendly PSYOP on target groups. C, D, 3, 4, 5
158. Exercising staff supervision over OPSEC activities, including supervising and coordinating analysis of the OPSEC posture of the command with the G2, the C, D, E, 3, 4, 6

C-E officer, and other staff officers; coordinating evaluation of the enemy intelligence threat with the G2; planning, implementing, and evaluating countersurveillance operations and countermeasures; coordinating, with the PM and the G2 respectively, the implementation of physical security and information security measures; coordinating with the C-E officer the implementation of SIGSEC measures; supervising and coordinating the conduct of OPSEC surveys with the G2 to evaluate the effectiveness of countersurveillance and countermeasures; preparing the OPSEC annex to plans and orders; supervising and coordinating the activities of the OPSEC staff elements.

159. Exercising staff supervision over deception activities, including preparing the deception annex to plans and orders; supervising and coordinating deception measures.

C, D, 3, 4, 6

160. Exercising staff supervision over RAP through the integration of RACO and ADC, including planning and coordinating RACO and ADC activities with the G2, the G4, the PM, the engineer officer, and other staff officers, and host nation forces as appropriate; ensuring that RAP plans of base commanders have been reviewed for their compatibility with the primary mission of the command and their tactical adequacy; organizing ADC control and assessment teams as required; preparing the RAP annex to plans and orders; supervising the rear area operations center (LAOC)(corps level).

C, D, 3, 4, 6

161. Exercising staff supervision, through the G3 Air of the AME.

A, 3, 4

162. Exercising staff supervision over command organization, including organizing and equipping units; estimating the numbers and types of units to be organized; ensuring that priorities are followed for phasing in or replacing personnel and equipment in the units; assigning, attaching, and detaching units, detachments, or teams; receiving

C, 3, 4, 5, 6

units, detachments, or teams and orienting, training, and reorganizing them as necessary; force accounting (acting on activation, inactivation, establishment, discontinuance, and reorganization of units); evaluating the utilization and requirement of military and civilian personnel with regard to organizational structure, functions, and work load to ensure their proper use; allocating manpower resources to subordinate commands.

163. Exercising staff supervision over command training activities, including preparing and carrying out training programs, directives, and orders; planning and conducting field exercises; allocating training resources, including ammunition for training, ranges, facilities, and training aids and devices, organizing and conducting internal schools and obtaining and allocating quotas for external schools; planning the budget for training and monitoring use of training funds to support training programs; scheduling, in coordination with the G4, new equipment training teams to support arrival of new materiel.

C, D, 3, 4

G4

164. Preparing logistic plans and orders and reports.

C, D, 3, 4

165. Preparing, authenticating, and distributing the administrative/logistic order and coordinating preparation of the service support portions of the operation plan or order.

C, D, 3, 4

166. Serving as the coordinating officer for logistic budget planning and monitoring expenditure of funds required to support materiel programs.

C, D, 3, 4, 5

167. Planning and supervising a logistic training plan.

C, D, 3, 4

168. Exercising staff supervision over supply activities, including monitoring the requisition, acquisition, storage, and distribution of supplies and equipment and the maintenance of material

C, D, 3, 4

records; ensuring that accountability and security of supplies and equipment are adequate in coordination with the PM; supervising the distribution of weapons, munitions (to include basic load), and equipment according to priorities established by the commander; supervising the distribution of the CSR of ammunition and its accountability to include publication of the CSR in the operation order; supervising the requisition receipt and storage of nuclear and chemical weapons and associated supplies; collecting and distributing excess, surplus, and salvage supplies and equipment (after coordinating with the G2, the G4 is responsible for the disposition of captured enemy supplies and equipment); coordinating the fielding of automated logistics systems; processing property accountability adjustment documents; allocating ground fuels to subordinate units.

169. Exercising staff supervision over maintenance activities, including monitoring and analyzing equipment readiness status and supervising maintenance effort according to priorities established by the commander.

C, 3, 4

170. Planning and coordinating transportation of personnel, equipment, and supplies by all modes of transportation.

C, 3, 4

171. Preparing movement orders for administrative troop movements.

C, D, 3, 4, 6

172. Exercising staff supervision over logistic services, including planning and coordinating the construction of facilities and installations, except fortifications and signal; acquiring, allocating, administering, and disposing of real estate, to include billets and shelters; real property control; food service; fire protection; personal services, bath and laundry services, and clothing exchange; and graves registration.

C, E, 3, 4

173. Supervising administration of the nuclear and chemical accident and incident program and NBC decontamination operations.

C, D, 2, 3, 4

174. Preparing plans for CA activities for command support operations and/or governmental support operations. C, D, 3, 4
175. Preparing the portions of operation and administrative/logistic plans and orders concerning CA activities and civil-military cooperation. C, D, 3, 4
176. Exercising staff supervision over Ca units that are assigned, attached, or under operational control of the command and over CA activities of other units of the command. C, 3, 4
177. Supervising CA functions of the command in the fields of government, economics, public facilities, and special functions, such as displaced persons, refugees, evacuees; arts, monuments, and archives; cultural affairs; and civil information. C, 4, 5
178. Establishing and maintaining close and continuing relations with other U.S. government agencies that may have CA responsibilities in an area of operations, such as Department of State; U.S. Embassy; Agency for International Development; Department of Agriculture; U.S. Information Agency; Department of Labor; religious, welfare, and relief organizations; and foreign officials. C, 4, 5
179. Coordinating OPSEC measures and MI aspects of CA activities with the G2. A, 4
180. Coordinating civil support for tactical and CSS operations to prevent civilian interference with military operations. C, 4
181. Coordinating military support of civil defense in the area of operations. C, 4
182. Coordinating civil support of RAP in the area of operations. C, 4